

R11i, Creating Customized Bills of Material and Product Families

Student Guide

Course Code 14841GC10
Edition 1.0
Month October 2000
Part Number M013447

ORACLE®

Copyright © Oracle Corporation, 2000. All rights reserved.

This documentation contains proprietary information of Oracle Corporation. It is provided under a license agreement containing restrictions on use and disclosure and is also protected by copyright law. Reverse engineering of the software is prohibited. If this documentation is delivered to a U.S. Government Agency of the Department of Defense, then it is delivered with Restricted Rights and the following legend is applicable:

Restricted Rights Legend

Use, duplication or disclosure by the Government is subject to restrictions for commercial computer software and shall be deemed to be Restricted Rights software under Federal law, as set forth in subparagraph (c)(1)(ii) of DFARS 252.227-7013, Rights in Technical Data and Computer Software (October 1988).

This material or any portion of it may not be copied in any form or by any means without the express prior written permission of the Education Products group of Oracle Corporation. Any other copying is a violation of copyright law and may result in civil and/or criminal penalties.

If this documentation is delivered to a U.S. Government Agency not within the Department of Defense, then it is delivered with "Restricted Rights," as defined in FAR 52.227-14, Rights in Data-General, including Alternate III (June 1987).

The information in this document is subject to change without notice. If you find any problems in the documentation, please report them in writing to Worldwide Education Services, Oracle Corporation, 500 Oracle Parkway, Box SB-6, Redwood Shores, CA 94065. Oracle Corporation does not warrant that this document is error-free.

Oracle and all references to Oracle Products are trademarks or registered trademarks of Oracle Corporation.

All other products or company names are used for identification purposes only, and may be trademarks of their respective owners.

Author

Bill Figini

Technical Contributors and Reviewers

Pam Freeman, Sid Ordog, Russ Smith, Al Kupchella, John Paramore

This book was published using:

Oracle® Tutor™



Table of Contents

R11i, Creating Customized Bills of Material and Product Families	1-1
R11i, Creating Customized BOMs and Product Families	1-2
Course Objectives	1-3
Agenda	1-4
Lesson 1: Creating Customized Bills of Material	1-5
Lesson 1 Objectives	1-6
Lesson 1 Overview	1-7
Types of Bills of Material	1-8
Bill of Material Item Types	1-9
Example of BOM	1-10
Planning Bills of Material	1-11
Model Bills of Material	1-12
Model Bills of Material (continued)	1-13
Option Class Bills of Material	1-14
Primary and Alternate Bills of Material	1-15
Review Question	1-16
Answer to Review Question	1-17
Bill of Material Data: Component Details	1-18
Bill of Material Data: Order Entry	1-19
Bill of Material Data: Order Entry (continued)	1-20
Processing Assemble-to-Order	1-24
Enhanced Open Interfaces	1-25
Review Question	1-26
Answer to Review Question	1-27
Lesson 1 Summary	1-28
Practice 1-1 Overview	1-29
A Model Bill of Material	1-30
Testing Your Model Bill of Material (optional)	1-33
Lesson 2: Creating Product Families	1-34
Lesson 2 Objectives	1-35
Lesson 2 Overview	1-36
Product Family: Example	1-37
Setting Up a Product Family	1-38
Assigning Members to a Product Family	1-39
Assigning Member Planning Percentages	1-40
Review Question	1-41
Answer to Review Question	1-42
Lesson 2 Summary	1-43
Practice 2-1 Overview	1-44
Practice 2-1	1-45
Practice 2-1 Solution	1-46
Course Summary	1-50

Preface

Profile

Before You Begin This Course

Before you begin this course, you should have the following qualifications:

- Thorough knowledge and proficiency in navigating Oracle applications
- Working experience with inventory items and bills of material, planning and forecasting, and product with offered-options

Prerequisites

- *Creating Bills of Material (e-class)*

How This Course Is Organized

Creating Customized Bills of Material and Product Families is an instructor-led course featuring lecture and hands-on exercises. Online demonstrations and written practice sessions reinforce the concepts and skills introduced.

Related Publications

Oracle Publications

Title	Part Number
<i>Oracle Inventory User's Guide</i>	<i>A83507-01</i>
<i>Oracle Bills of Material User's Guide</i>	<i>A75087-01</i>
<i>Oracle Master Scheduling/MRP and Oracle Supply Chain Planning User's Guide</i>	<i>A82941-01</i>

Additional Publications

- System release bulletins
- Installation and user's guides
- *read.me* files
- *Oracle Magazine*

Typographic Conventions

Typographic Conventions in Text

Convention	Element	Example
Bold italic	Glossary term (if there is a glossary)	The <i>algorithm</i> inserts the new key.
Caps and lowercase	Buttons, check boxes, triggers, windows	Click the Executable button. Select the Can't Delete Card check box. Assign a When-Validate-Item trigger to the ORD block. Open the Master Schedule window.
Courier new, case sensitive (default is lowercase)	Code output, directory names, filenames, passwords, pathnames, URLs, user input, usernames	Code output: <code>debug.set ('I', 300);</code> Directory: <code>bin (DOS), \$FMHOME (UNIX)</code> Filename: Locate the <code>init.ora</code> file. Password: User <code>tiger</code> as your password. Pathname: Open <code>c:\my_docs\projects</code> URL: Go to <code>http://www.oracle.com</code> User input: Enter <code>300</code> Username: Log on as <code>scott</code>
Initial cap	Graphics labels (unless the term is a proper noun)	Customer address (<i>but</i> Oracle Payables)
Italic	Emphasized words and phrases, titles of books and courses, variables	Do <i>not</i> save changes to the database. For further information, see <i>Oracle7 Server SQL Language Reference Manual</i> . Enter <code>user_id@us.oracle.com</code> , where <i>user_id</i> is the name of the user.
Quotation marks	Interface elements with long names that have only initial caps; lesson and chapter titles in cross-references	Select "Include a reusable module component" and click Finish. This subject is covered in Unit II, Lesson 3, "Working with Objects."
Uppercase	SQL column names, commands, functions, schemas, table names	Use the SELECT command to view information stored in the LAST_NAME column of the EMP table.

Convention	Element	Example
Arrow	Menu paths	Select File—> Save.

Brackets	Key names	Press [Enter].
Commas	Key sequences	Press and release keys one at a time: [Alternate], [F], [D]
Plus signs	Key combinations	Press and hold these keys simultaneously: [Ctrl]+[Alt]+[Del]

Typographic Conventions in Code

Convention	Element	Example
Caps and lowercase	Oracle Forms triggers	When-Validate-Item
Lowercase	Column names, table names	SELECT last_name FROM s_emp;
	Passwords	DROP USER scott IDENTIFIED BY tiger;
	PL/SQL objects	OG_ACTIVATE_LAYER (OG_GET_LAYER ('prod_pie_layer'))
Lowercase italic	Syntax variables	CREATE ROLE <i>role</i>
Uppercase	SQL commands and functions	SELECT userid FROM emp;

Typographic Conventions in Navigation Paths

This course uses simplified navigation paths, such as the following example, to direct you through Oracle Applications.

(N) Invoice > Entry > Invoice Batches Summary (M) Query > Find (B) Approve

This simplified path translates to the following:

1. (N) From the Navigator window, select Invoice > Entry > Invoice Batches Summary.
2. (M) From the menu, select Query > Find.
3. (B) Click the Approve button.

Notations :

(N) = Navigator

(M) = Menu

(T) = Tab

(I) = Icon

(H) = Hyperlink

(B) = Button

Typographical Conventions in Help System Paths

This course uses a “navigation path” convention to represent actions you perform to find pertinent information in the Oracle Applications Help System.

The following help navigation path, for example—

(Help) General Ledger > Journals > Enter Journals

—represents the following sequence of actions:

1. In the navigation frame of the help system window, expand the General Ledger entry.
2. Under the General Ledger entry, expand Journals.
3. Under Journals, select Enter Journals.
4. Review the Enter Journals topic that appears in the document frame of the help system window.

Getting Help

Oracle Applications provides you with a complete online help facility.

Whenever you need assistance, simply choose an item from the Help menu to pinpoint the type of information you want.

To display help for a current window:

1. Choose Window Help from the Help menu, click the Help button on the toolbar, or hold down the Control key and type 'h'.

A web browser window appears, containing search and navigation frames on the left, and a frame that displays help documents on the right.

The document frame provides information on the window containing the cursor. The navigation frame displays the top-level topics for your responsibility, arranged in a tree control.

2. If the document frame contains a list of topics associated with the window, click on a topic of interest to display more detailed information.

3. You can navigate to other topics of interest in the help system, or choose Close from your web browser's File menu to close help.

Searching for Help

You can perform a search to find the Oracle Applications help information you want. Simply enter your query in the text field located in the top-left frame of the browser window when viewing help, then click the adjacent Find button.

A list of titles, ranked by relevance and linked to the documents in question, is returned from your search in the right-hand document frame. Click on whichever title seems to best answer your needs to display the complete document in this frame. If the document doesn't fully answer your questions, use your browser's Back button to return to the list of titles and try another.

R11i, Creating Customized Bills of Material and Product Families

Chapter 1

R11i, Creating Customized BOMs and Product Families

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Course Objectives

After completing this course, you should be able to do the following:

- **Explain the concepts of planning, model, and option bills of material**
- **Describe the steps in creating product families**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Agenda

Agenda

- **Lesson 1: Creating customized bills of material**
- **Lesson 2: Creating product families**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 1: Creating Customized Bills of Material

Lesson 1: Creating Customized Bills of Material

- **Lesson 1: Creating customized bills of material**
- Lesson 2: Creating product families

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 1 Objectives

Lesson 1 Objectives

After completing this lesson, you should be able to manually create planning, model, and option class bills of material.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 1 Overview

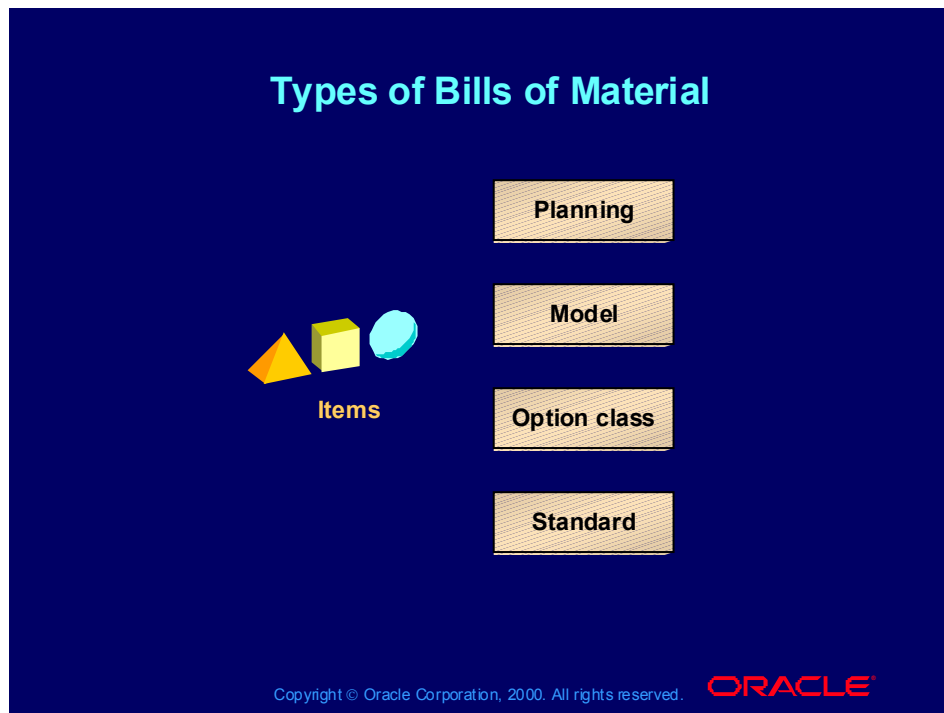
You use bills of material to specify the component items that you use to:

- **Manufacture assemblies and subassemblies**
- **Configure assemblies from sales order line items**
- **Explode aggregate forecasts**
- **Calculate standard cost**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Types of Bills of Material



Types of Oracle Bills of Material

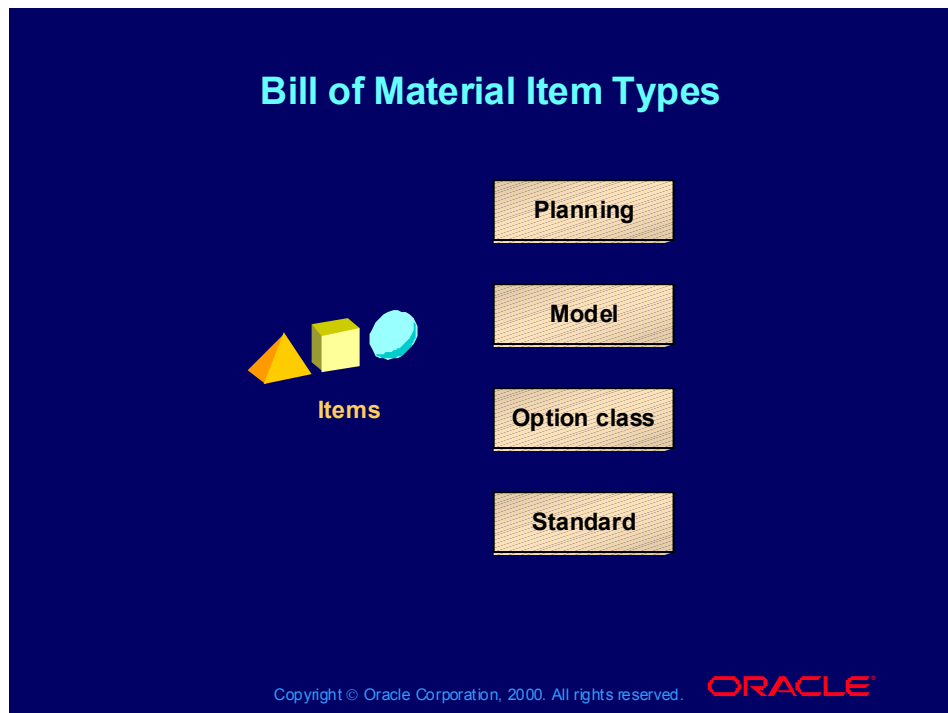
Planning: Use planning bills of material to specify items that belong to the same product line (similar to a *product family* which is discussed later). For example, a restaurant that sells Italian food sells pizza, which accounts for 70 percent of its Italian food business, and calzone, which accounts for 30 percent of its Italian food business. Refer to the assembly of a planning bill of material as a *product family*.

Model: Use model bills of material to specify classes of options from which your customers can choose when ordering configurable items. For example, a customer ordering a pizza must choose the type of crust, type of sauce, type of cheese, and toppings. Refer to the nonoptional components as *included items* or *mandatory components*.

Option Class: Use option class bills of material with model bills of material to specify families of options from which your customers can choose when ordering configurable items. For example, a customer ordering a pizza can choose pizza toppings from among sausage, pepperoni, onions, and mushrooms.

Refer to the optional components of an option class bill of material as *options* and the nonoptional components of an option class bill of material as *included items* or *mandatory components*.

Bill of Material Item Types



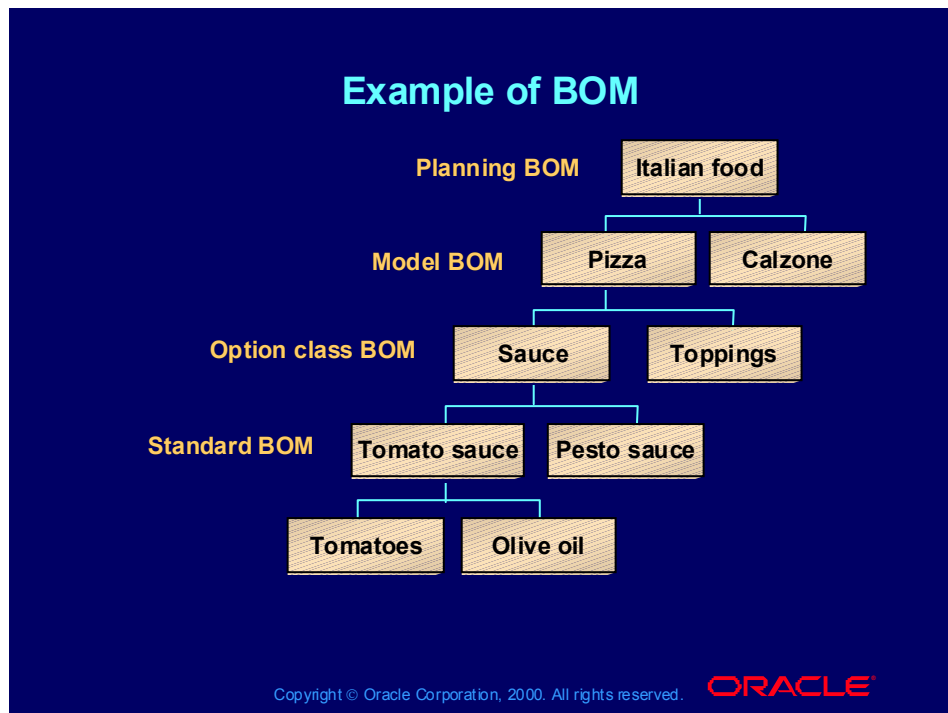
Creating Assembly Item Types of BOM

You must make sure that the assembly's *BOM Item Type* attribute in the item master specifies the bill of material type you wish to create. For example, to create a model bill of material, select Model from the drop down list as the value of the *BOM Item Type* item attribute.

Allowing Entry of Items on Bills of Material

You must select the BOM Allowed item attribute for both the assembly item and all of the component items from which you want to construct a bill of material. When you select the BOM Allowed item attribute, you can use the item as either an assembly or as a component of a bill of material. Before you can select the BOM Allowed item attribute, you must select the Inventory Item attribute.

Example of BOM

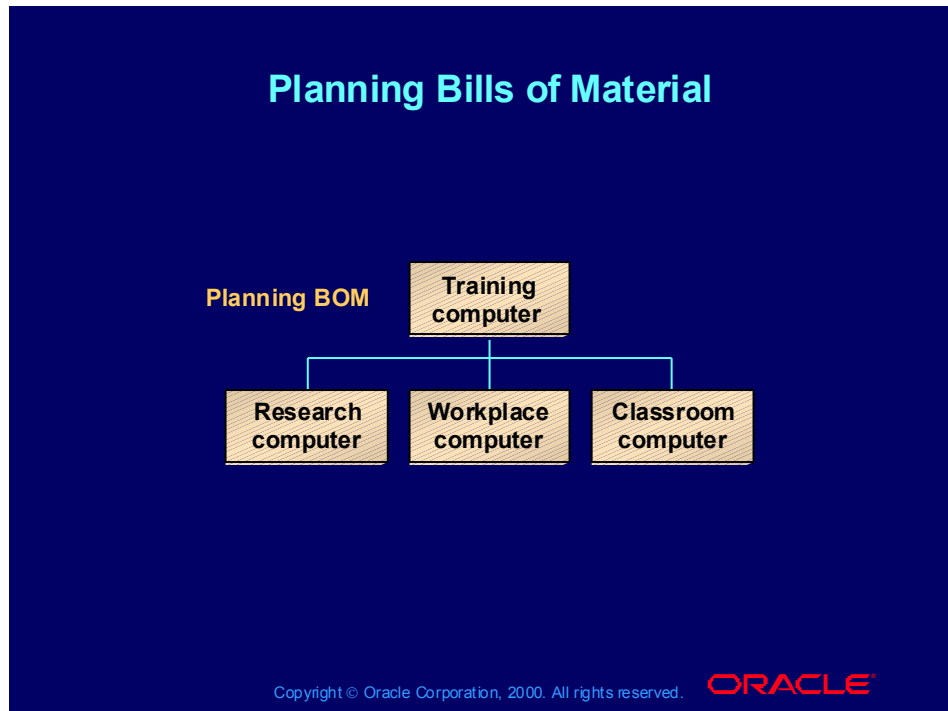


Connecting Multiple Bills of Material

The bills of material shown in the slide include:

- A planning bill of material for Italian foods containing items pizza and calzone as components
- Two model bills of material for pizza and calzone (Pizza contains the option class components sauce and toppings.)
- Two option class bills of material for sauce and toppings (Sauce contains standard components tomato sauce and pesto sauce.)
- Two standard bills of material for tomato sauce and pesto sauce (Tomato sauce contains standard components tomato and oil.)

Planning Bills of Material



Specify Components for Planning BOM

Use planning bills of material to specify components that belong to the same product line.

You neither order nor build planning assemblies. Clear item attributes Customer Ordered, Customer Orders Enabled, Internal Orders Enabled, and Build in WIP.

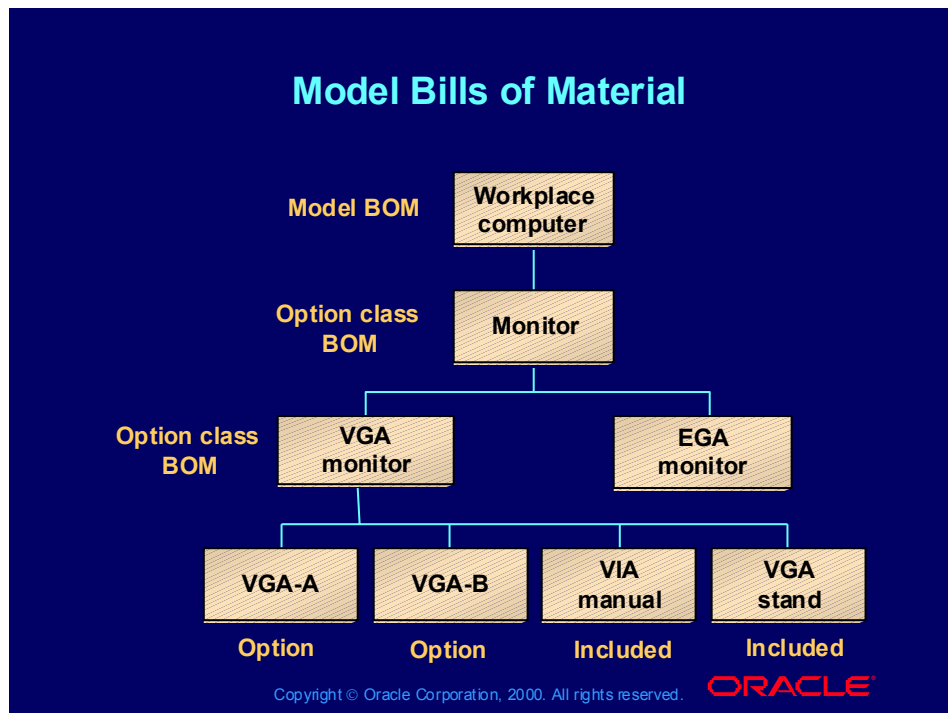
(Help) Oracle Manufacturing Applications > Oracle Inventory > Items > Item Attribute Descriptions by Group > Main Attribute Group >

(link) Status Attributes and Item Status Control

You use planning bills for aggregate forecasting. Assign planning percentages, as well as quantities per assembly, to the components in proportion to their use in the assembly. The forecast explosion process allocates forecasts of the assembly to the components based on their planning percentages and their quantities per assembly.

If the top level item attribute BOM Item Type value is Planning, you can use those items with item attribute BOM Item Type value of Planning, Model, Option class, and Standard as components.

Model Bills of Material



Specifying Classes for Model BOM

Use model bills of material to specify classes of options from which your customers can choose when they order configurable items.

The two types of model bills of material are:

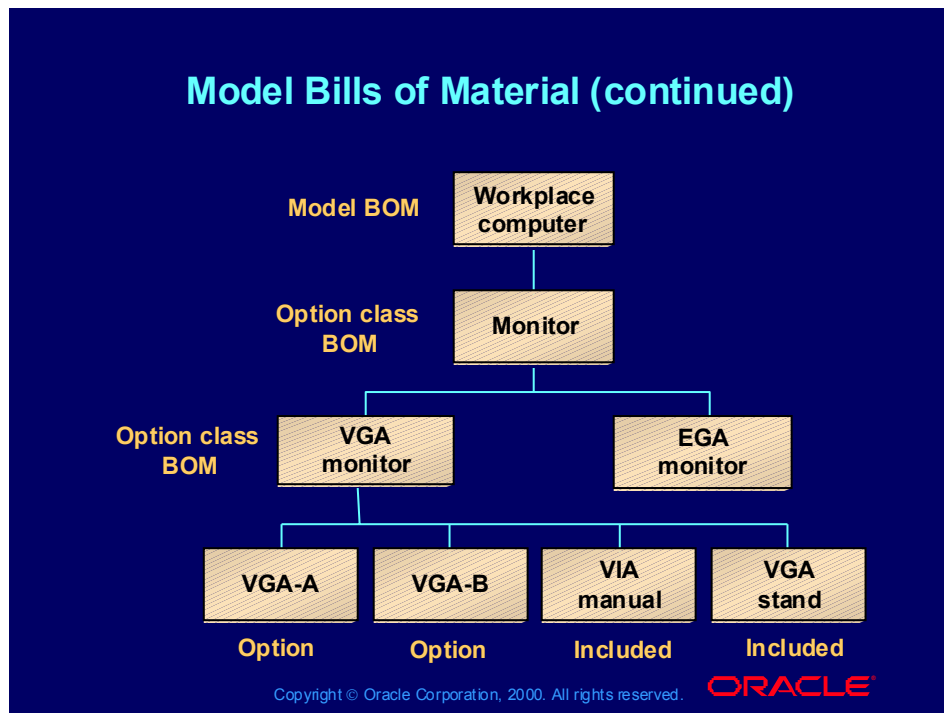
Pick-to-order: Your customer chooses options, and you pick and ship the components.

Assemble-to-order: Your customer chooses options, and you assemble the components before shipping.

In the example in the slide, each computer is made up of a monitor option class, cpu option class, and accessories option class.

Each monitor option class is made up of a VGA option class and a EGA option class. The VGA monitor option class has two options, VGA-A and VGA-B, and to components that are always included, the manual and the stand.

Model Bills of Material (continued)



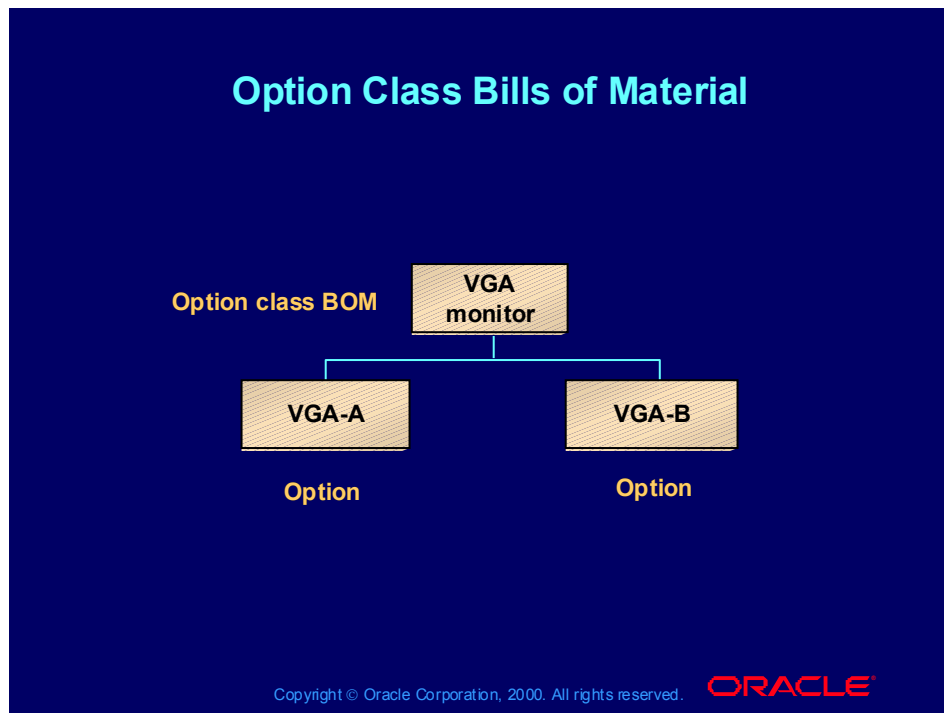
Model Bills of Materials

You do not build model assemblies; you assemble a configured item on a final assembly schedule. The configured item has a standard bill of material that contains only the options that the customer selected. Select Customer Ordered, Customer Orders Enabled, Internal Ordered, and Internal Orders Enabled item attributes. Clear the check box for the Build in WIP item attribute. You use model bills of material for aggregate forecasting. Assign planning percentages to the components in proportion to their use in the model. The forecast explosion process allocates forecasts of the model to the components based on their planning percentages.

If the value of the assembly BOM Item Type item attribute is Model, you can use those items with a BOM Item Type item attribute value of Model, Option Class, and Standard as components.

Because Oracle Order Management uses model bills of material, you must also define them in the organization designated by profile option OE: Item Validation Organization.

Option Class Bills of Material



Rules for Setting Up Option Class Bills of Material

Use option class bills of material with model bills of material to specify families of options from which your customers can choose when ordering configurable items.

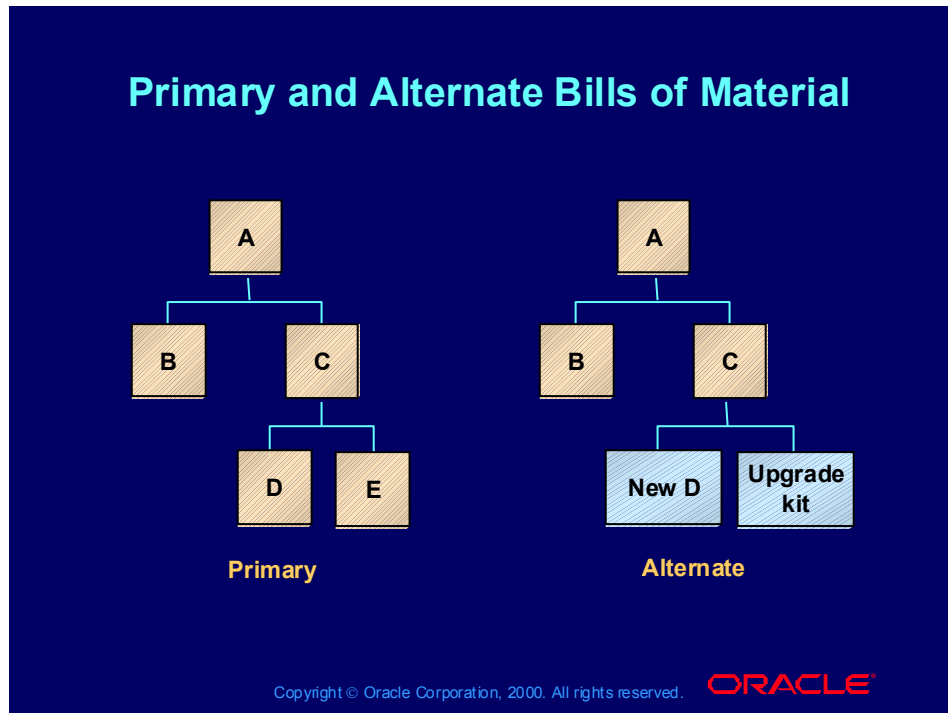
You neither order nor build option class assemblies; you order and build the options. You should clear Customer Ordered, Customer Orders Enabled, Internal Ordered, Internal Orders Enabled, and Build in WIP item attributes.

You use option class bills of material for aggregate forecasting. Assign planning percentages to the components in proportion to their use in the assembly. The forecast explosion process allocates forecasts of the assembly to the components based on their planning percentages.

If the assembly BOM Item Type item attribute value is Option Class, you can use those items with BOM Item Type item attribute value of Model, Option Class, and Standard as components.

Since Oracle Order Management uses option class bills of material, you must also define them in the organization designated by profile option OE: Item Validation Organization.

Primary and Alternate Bills of Material



Restriction

Do not create alternate bills of material for model and option class bills of material. You cannot choose alternate bills of material when you configure an order. Refer to the *Oracle Bills of Material User's Guide* for additional information.

Review Question

Review Question

Which bill of material item types cannot be built?

- a Model
- b Standard
- c Planning
- d Option Class

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Answer to Review Question

Answer to Review Question

Which bill of material item types cannot be built?

- a **Model**
- b **Standard**
- c **Planning**
- d **Option Class**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Bill of Material Data: Component Details

Bill of Material Data: Component Details

- Use the Planning % field for planning, model, and option class bills of material.
- Enter the percentage of assembly sales that this component usually contributes.
 - The planning percentages for all the components on a bill of material may total more than 100%.
 - Oracle Planning uses this percentage to calculate forecasts for the components from forecasts for the product family and model.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(N) Engineering > Prototypes > Bills > Bills (T) Component Details

(N) Bills of Material > Bills > Bills (T) Component Details

(Help) Oracle Manufacturing Applications > Oracle Engineering >
Engineering Prototype Environment >

Engineering Bills of Material and Routings >

(Related Topics) Creating a Bill of Material (Oracle Bills of Material Help) >

Planning Percent (Link) > Planning Percent Field

(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Defining a Bill of Material > Creating a Bill of Material >

Planning Percent (Link) > Planning Percent Field

Bill of Material Data: Order Entry

- **Check ATP:** Use for model and option class bills of material. Select the check box to indicate that the available-to-promise feature in Oracle Order Management should check the availability of this component when suggesting a promise date for a customer order. You can select this check box if you have selected the item attribute Check ATP for both the assembly and the component.

(N) Engineering > Prototypes > Bills > Bills
(T) Order Management

(N) Bills of Material > Bills > Bills (T) Order Management

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(Help) Oracle Manufacturing Applications > Oracle Engineering >
Engineering Prototype Environment >
Engineering Bills of Material and Routings >

(Related Topics) Creating a Bill of Material (Oracle Bills of Material Help) >
(link) Check ATP

(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Bills of Material > Defining a Bill of Material > Creating a Bill of Material >
(link) Check ATP

Bill of Material Data: Order Entry (continued)

Bill of Material Data: Order Entry (continued)

- **Optional: Used with model and option class bills of material. Select the component's check box to indicate that the customer placing a customer order can select this component as an option.**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(Help) Oracle Manufacturing Applications > Oracle Engineering >
Engineering Prototype Environment >
Engineering Bills of Material and Routings >
(Related Topics) Creating a Bill of Material (Oracle Bills of Material Help) >
(link) Mutually Exclusive and Optional
(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Bills of Material > Defining a Bill of Material > Creating a Bill of Material >
(link) Mutually Exclusive and Optional

Bill of Material Data: Order Entry (continued)

- **Mutually Exclusive:** Used with model and option class bills of material. This component applies if you have taken one of these actions:
 - **Selected both Mutually Exclusive and Optional,** a customer placing a customer order can choose no options or choose one, and only one, option.
 - **Selected Mutually Exclusive and cleared Optional,** a customer placing a customer order must choose one option only.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Bill of Material Data: Order Entry (continued)

Bill of Material Data: Order Entry (continued)

- Cleared Mutually Exclusive and selected Optional, a customer placing a customer order can choose no options or any number of options.
- Cleared both Mutually Exclusive and Optional, a customer placing a customer order can choose any number of options, but must choose at least one option.

(N) Engineering > Prototypes > Bills > Bills (T) Order Management

(N) Bills of Material > Bills > Bills (T) Order Management

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(Help) Oracle Manufacturing Applications > Oracle Engineering >
Engineering Prototype Environment >
Engineering Bills of Material and Routings >
(Related Topics) Creating a Bill of Material (Oracle Bills of Material Help) >
Mutually Exclusive and Optional (Link) Mutually Exclusive and Optional Fields
(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Defining a Bill of Material > Creating a Bill of Material >
Mutually Exclusive and Optional (Link) Mutually Exclusive and Optional Fields

Bill of Material Data: Order Entry (continued)

Bill of Material Data: Order Entry (continued)

- **Quantity Minimum:** Used with model and option class bills of material to indicate the minimum number of the component that a customer placing a customer order must order.
- **Quantity Maximum:** Used with model and option class bills of material to indicate the maximum number of the component that a customer placing a customer order can order.

(N) Engineering > Prototypes > Bills > Bills (T) Order Management

(N) Bills of Material > Bills > Bills (T) Order Management

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(Help) Oracle Manufacturing Applications > Oracle Engineering >
Engineering Prototype Environment >
Engineering Bills of Material and Routings >
(Related Topics) Creating a Bill of Material (Oracle Bills of Material Help) >
Minimum and Maximum Quantities (Link) >
Minimum and Maximum Quantity Fields
(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Defining a Bill of Material > Creating a Bill of Material >
Minimum and Maximum Quantities (Link) >
Minimum and Maximum Quantity Fields

Processing Assemble-to-Order

- When your customers order configured items, you use Oracle Order Management to display model and option class bills of material from which they choose options.
- Use the Run Assemble to Order Processes form to create a unique item number and a unique standard bill of material, based on the model and option class bills of material for each configured sales order line.
- When the AutoCreate Configuration Items feature is used, Oracle generates either a WIP discrete order or schedule.
- A BOM and associated routing is created for the specific sales order.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

(N) Bills of Material > ATO

(Help) Oracle Manufacturing Applications > Oracle Bills of Material >

Configure to Order > AutoCreate Configuration Items >

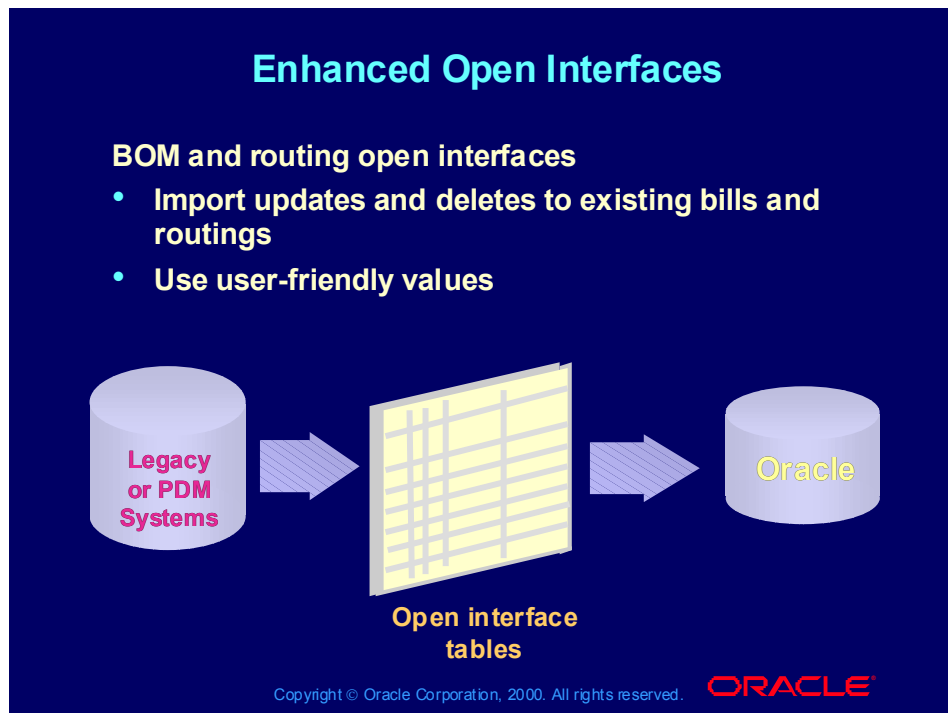
AutoCreating Config Items and Final Assembly Orders >

(link) AutoCreate Configuration Items and Final Assembly Orders

Note: The unique item number is comprised of the Numbering Segment and Numbering Method you selected in the Configuration Options setup parameters during implementation.

Note: If you have checked the BOM profile option to check for duplicate configurations, and one is found, the same assigned item number is used.

Enhanced Open Interfaces



Bills of Material Open Interface

Oracle Manufacturing integration tools are powerful, flexible tools with which you can capture data from other Oracle applications or your own applications, define necessary format conversions, and direct data to your Oracle Manufacturing products.

The bills of material open interface can:

- Update and delete BOM information including, bills and common bills, reference designators, and substitute components
- Update and delete BOM component information including, planning, cost rollup indicator, supply type, supply locator, and check ATP indicator
- Update and delete BOM component information including, model, option class information (optional, mutually exclusive, basis), min and max quantities, order information, and assembly components

Review Question

Review Question

If you want the system to see if the component is available when suggesting the promise date for a customer order, you have to check the Check ATP item attribute for:

- a the component
- b the assembly
- c both
- d neither

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Answer to Review Question

Answer to Review Question

If you want the system to see if the component is available when suggesting the promise date for a customer order, you have to check the Check ATP item attribute for:

- a the component
- b the assembly
- c both**
- d neither

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 1 Summary

Lesson 1 Summary

You should now be able to do the following:

- Specify options for customers
- Specify classes of options for customers
- Create planning, model, and option class bills of material

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Bills of Material Summary

To create each of the four types of bills of material, you use an assembly item with a corresponding item type, as follows:

- Use *planning bills of material* to specify components that belong to the same product line.
- Use *model bills of material* to specify classes of options from which your customers can choose when ordering pick to order and configurable items.
- Use *option class bills of material* with model bills of material to identify the list of specific options from which your customers can choose when ordering pick to order and configurable items.
- Use *standard bills of material* to specify components that you use to manufacture items.
- • *A bill of material revision* indicates that one or more components of a parent have been added, changed, or deleted.
- • You use the *ATO processes* to create a unique item number and a unique standard bill of material based on the model and option class bills of material for each configured sales order line.

Note: If you have checked the BOM profile option to check for duplicate configurations, and one is found, the same assigned item number is used.

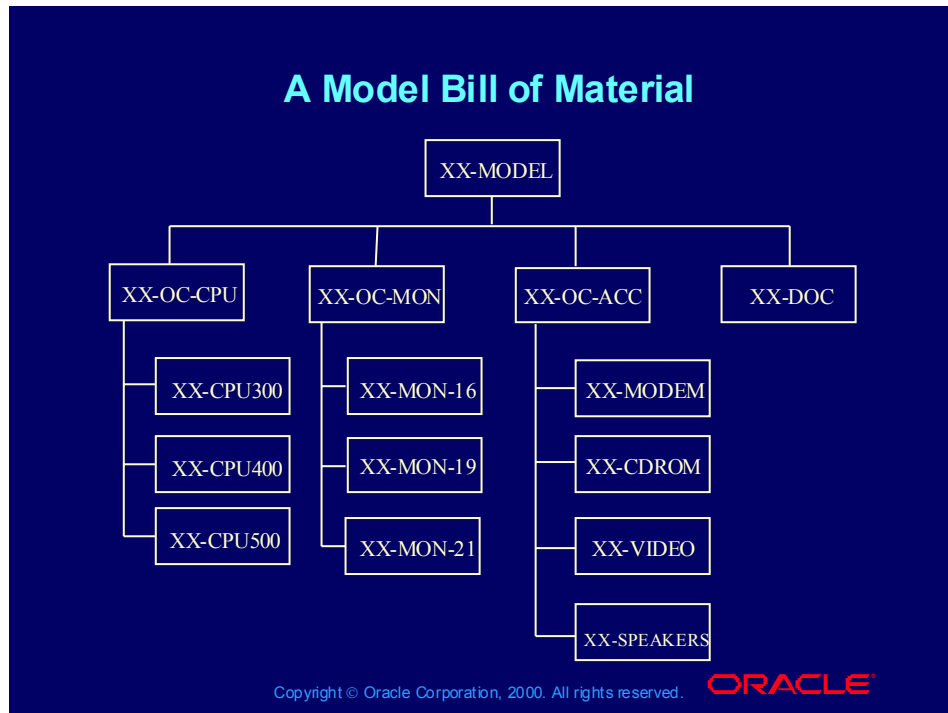
Practice 1-1 Overview

- Entering marketing bills of material
- Specifying option classes for components
- Entering attribute fields for components
- Exploding forecasts for model item numbers

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

A Model Bill of Material



Build the PC Model Structure

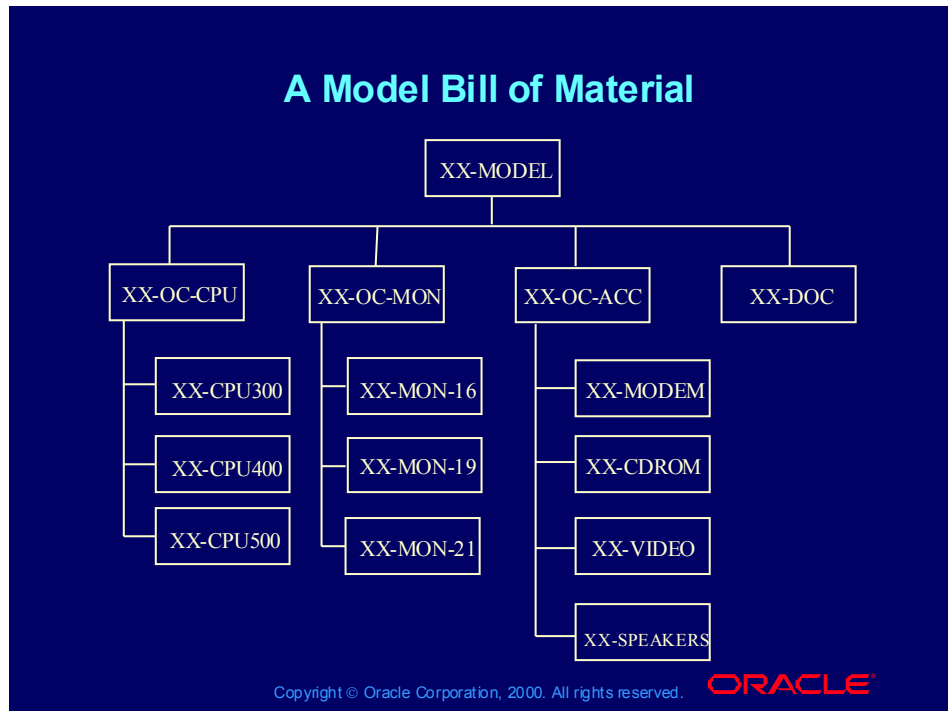
The model is made up of a CPU, a monitor, accessories, and documentation. A customer can select from three CPUs, three monitors, and four accessories. The documentation is a standard item.

- 1 Create item numbers for all of the above items, using the descriptions and templates indicated below. Remember to enable these items in the shipping organization (M1).

1 Item Number Description Template

XX-MODEL	Model PC	PTO Model
XX-OC-CPU	CPU Options	PTO Option Class
XX-OC-MON	Monitor Options	PTO Option Class
XX-OC-ACC	Optional Accessories	PTO Option Class
XX-DOC	PC User's Guide	Finished Good
XX-CPU300	CPU 300 (low end CPU)	Finished Good
XX-CPU400	CPU 400 (mid range CPU)	Finished Good
XX-CPU500	CPU 500 (high end CPU)	Finished Good
XX-MON-16	16" Color Monitor	Finished Good
XX-MON-19	19" Color Monitor	Finished Good
XX-MON-21	21" Color Monitor	Finished Good

A Model Bill of Material



Build the PC Model Structure (continued)

1 Create item numbers for all of the above items, using the descriptions and templates indicated below. Remember to enable these items in the shipping organization (M1).

<u>1 Item Number</u>	<u>Description</u>	<u>Template</u>
----------------------	--------------------	-----------------

XX-MODEM	Fax/Modem Card	Finished Good
----------	----------------	---------------

XX-CDROM	CDROM Drive	Finished Good
----------	-------------	---------------

XX-VIDEO	Video	Finished Good
----------	-------	---------------

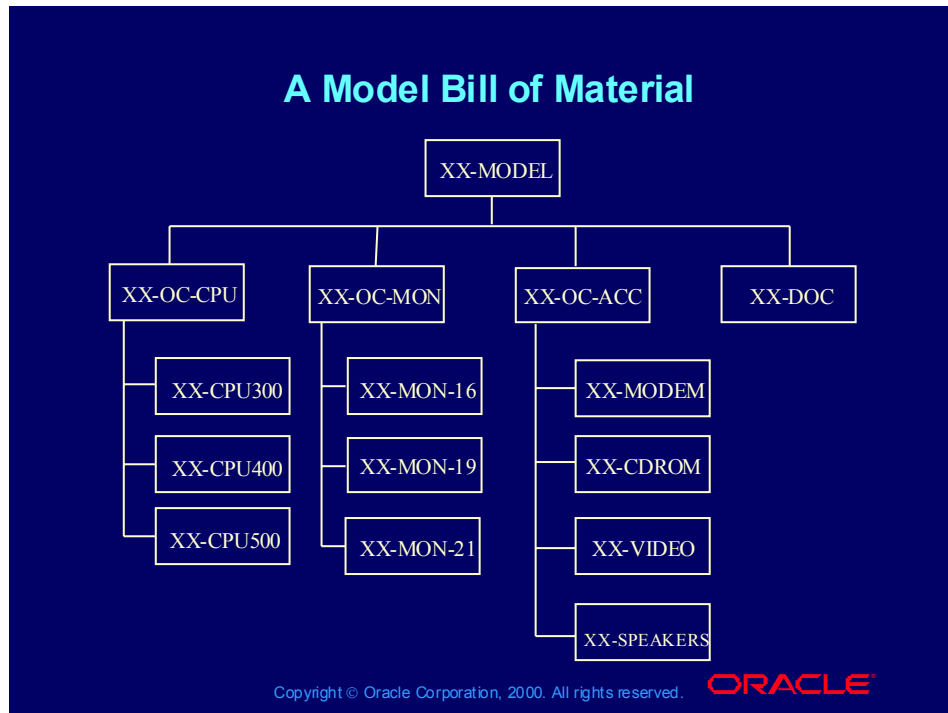
XX-SPEAKERS	Pair of Whiz-Bang Speakers	Finished Good
-------------	----------------------------	---------------

2 Change your organization to the Vision Operations.

3 Create the BOM as shown above. Remember to set the order entry and shipping attributes for the option class and finished good components per the configuration rules below:

- Selection of a CPU and a Monitor is REQUIRED when ordering any XX-MODEL configuration.
- Selection of any accessory is OPTIONAL.
- The PC User's Guide is an INCLUDED item.

A Model Bill of Material



Build the PC Model Structure (continued)

The configurations rules (continued):

- The CPU options and the Monitor options are **MUTUALLY EXCLUSIVE** of each other. A customer can order only one CPU and only one Monitor, and they are **REQUIRED** for shipment and billing.
- Accessory options are **MUTUALLY EXCLUSIVE** of each other. So a customer does not have to order any of these, but if accessories are ordered, only one of each can be selected due to slot limitations on the CPU.
- If a customer orders the XX-CPU500, the XX-MODEM and the XX-CDROM cannot be selected since these options are included as part of the high end CPU.

Testing Your Model Bill of Material (optional)

Testing Your Model Bill of Material (optional)

Before you can enter a sales order for your model, every item that you created must be on a specified price list. Two rules to follow:

- **Place your model and option class items on the price list with a zero value.**
- **Enter very small price values for all other components.**

Enter an order for your XX-MODEL. Use the information in the note section for your order:

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Entering an order

1 In the Order Information area, enter or select:

- Customer Name: Business World
- Order Type: Standard
- Accept all other defaults

2 In the Line Items area, enter or select:

- Line: accept the default
- Ordered Item: XX-MODEL
- Qty: 1

3 Select the Configurator tab (Your PTO model bill of material is displayed.)

4 Select what ever options you want.

4 **Note:** First time through, do not break any of the configuration rules.

5 Enter a second order; see what happens when you break one or more of your configuration rules.

Lesson 2: Creating Product Families

Lesson 2: Creating Product Families

- Lesson 1: Creating customized bills of material
- **Lesson 2: Creating product families**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 2 Objectives

Lesson 2 Objectives

After completing this lesson you should be able to do the following:

- **Group like items into product families**
- **Assign member items**
- **Control member item planning percentages with effectivity dates**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

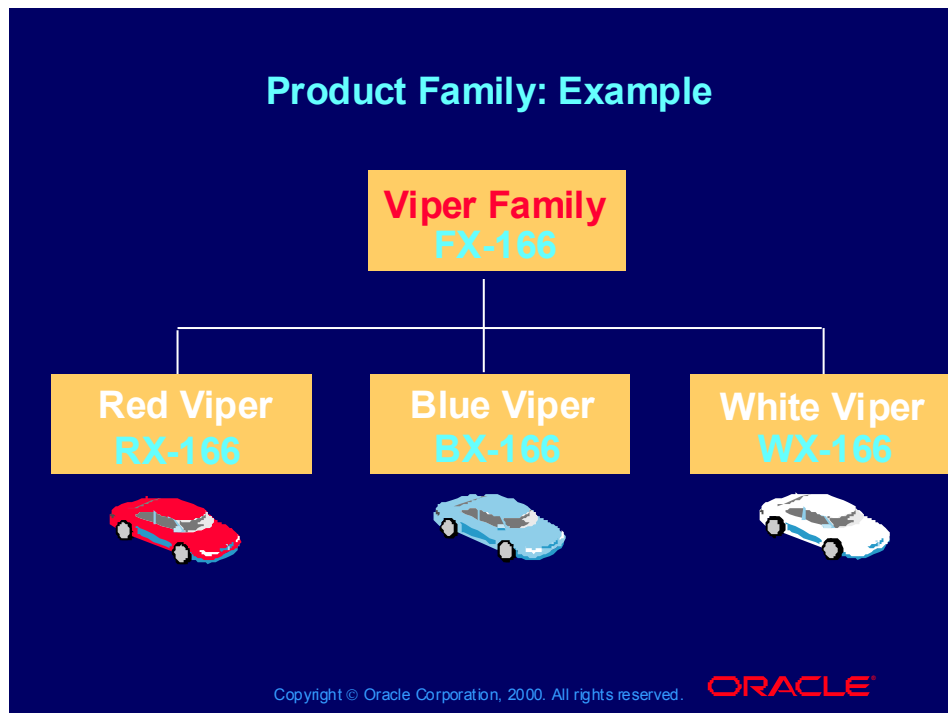
Lesson 2 Overview

- A product family is a single-level BOM.
- You may apply the product family template to create your product family consistently.
- You must define the product family item and all the family members as items.
- If you do not assign planning percentages, the Oracle database will assign the default percentage of 100%.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Product Family: Example



Product Family

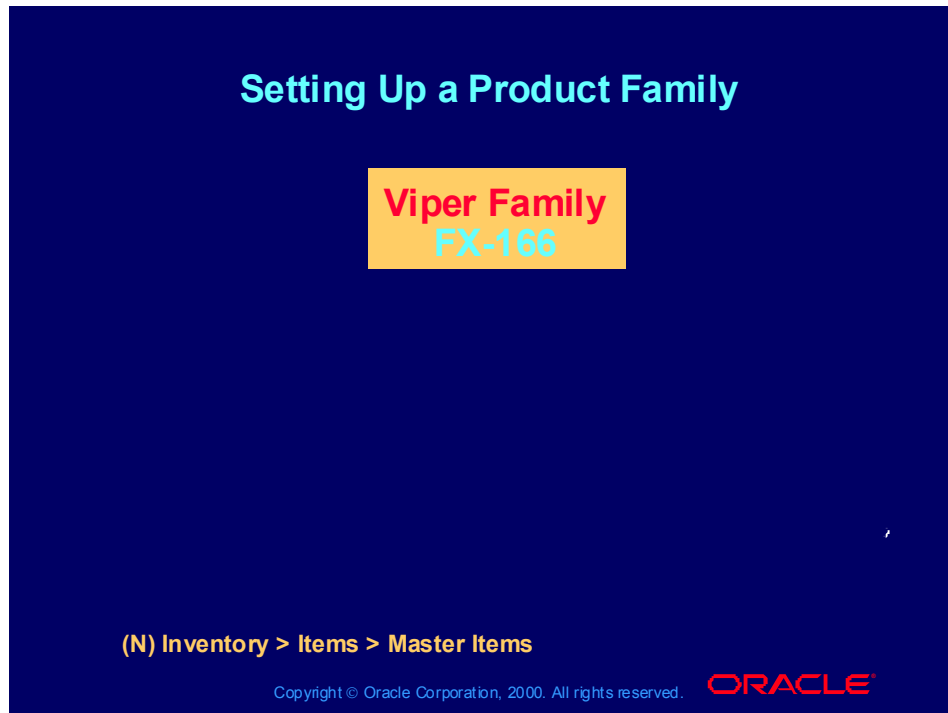
A product family is a grouping of products that are similar in resource usage, design, and manufacturing process. These similarities facilitate planning at an aggregate level. A product family cannot be structured under a Standard, Planning, Model, or Option Class bill of material. Consequently, a product family is a single-level bill of material. Members of a product family can belong to only one product family. You will be able to plan based on the planning percentages and effectivity of the product family members. Refer to the *Oracle Bills of Material User's Guide* for detailed information.

Note: You must make sure that the product family key flexfield structure is configured to match the system item structure. If the system item structure is changed, it should be reflected in the product family structure as well.

Product Family Items

- Product Family Items are defined in the master items form.
- They are created by using the predefined product family item template, or a template you have created for your company.
- This feature automatically creates product family categories for each product family item.
- Planning percentages can exceed 100%.

Setting Up a Product Family



To create a product family item:

- 1 Navigate to the Master Item form.

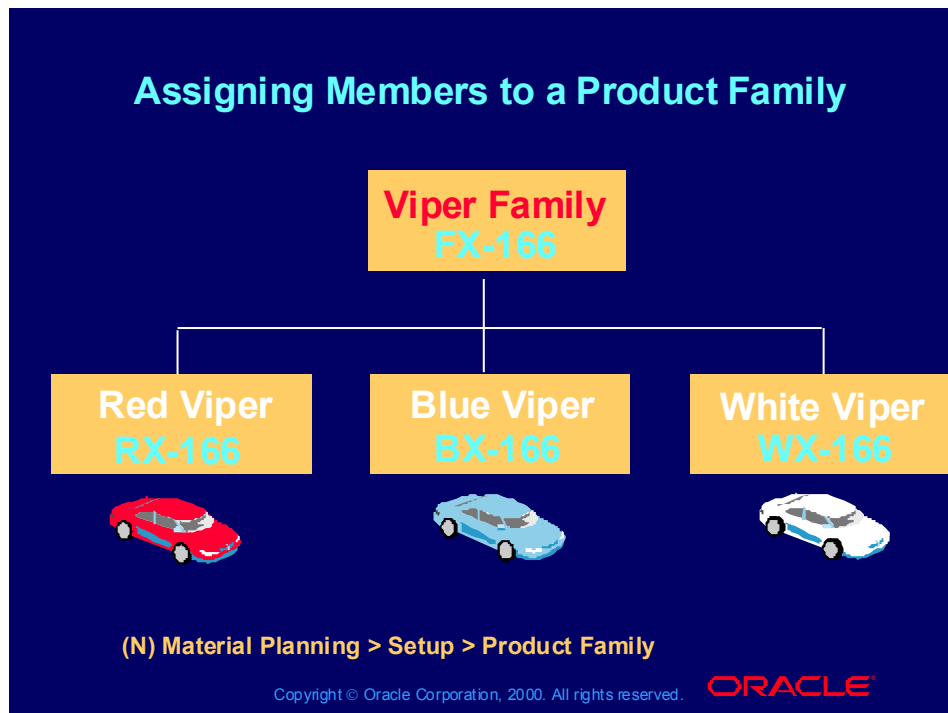
Note: If you are a Flow Manufacturing customer, select Product Family from the Flow Manufacturing window. The product family template is automatically applied.

- 2 Apply the product family template.

Note: You are not required to use the product family template. If you choose not to do so, make sure you define the correct product family attributes. Specifically, the item must be an inventory item and the BOM Item Type must be Product Family. The item must also be BOM allowed.

(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Bills of Material > Creating a Product Family

Assigning Members to a Product Family



To assign family members:

1 Navigate to the Product Family form.

Note: If you are using Oracle Flow Manufacturing, you can select Product Family Members from the Flow Manufacturing menu.

2 Select a product family item.

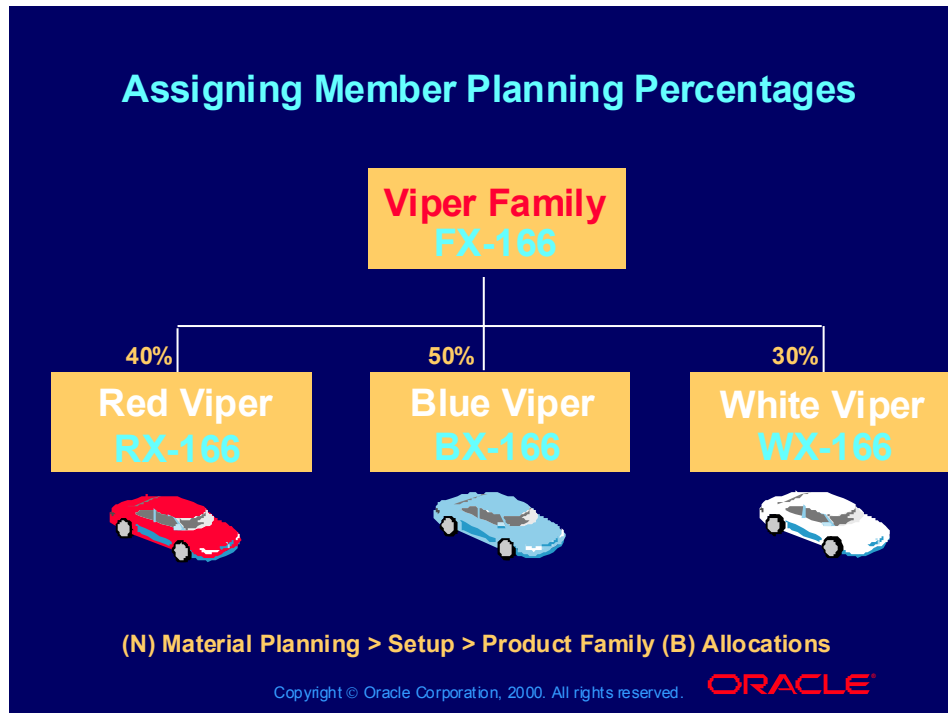
3 Select item members of the product family. The description, type, forecast control, and planning method for the member items are displayed for the items selected.

Note: When an item is included in a product family, it is automatically assigned to the same category as the family item.

(Help) Oracle Manufacturing Applications > Oracle Bills of Material >

Bills of Material > Assigning Product Family Members

Assigning Member Planning Percentages



Assigning Percentages:

- 1 Navigate to the Allocations form.
- 2 For each selected product family member, enter the planning percentage.
- 3 Assign effectivity dates for the item.
Note: Effectivity dates cannot overlap.
- 4 Optionally, enter comments text.
- 5 Save your work.

Note: You cannot commit a record without assigning planning percentages. The default planning percent is 100. The default effectivity date is the system date.

(Help) Oracle Manufacturing Applications > Oracle Bills of Material > Bills of Material > Assigning Product Family Members > Related Topics > Setting Planning Percentages for Product Family Members
and

(Help) Oracle Manufacturing Applications > Oracle Bills of Material > Bills of Material > Bills of Material References > Planning Percent

Review Question

Which of the following statements are true?

- a A product family can be part of a model bill of material.
- b Members of a product family cannot belong to more than one family.
- c You cannot apply effectivity to a product family member.
- d A product family is a single-level bill of material.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Answer to Review Question

Which of the following statements are true?

- a A product family can be part of a model bill of material.
- b Members of a product family cannot belong to more than one family.**
- c You cannot apply effectivity to a product family member.
- d A product family is a single-level bill of material.**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Lesson 2 Summary

Lesson 2 Summary

You should now be able to do the following:

- **Group like items into product Families**
- **Assign member items**
- **Control member item planning percentages with effectivity dates**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

Practice 2-1 Overview

- **Creating product families**
- **Creating product members**
- **Assigning members to product families**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE

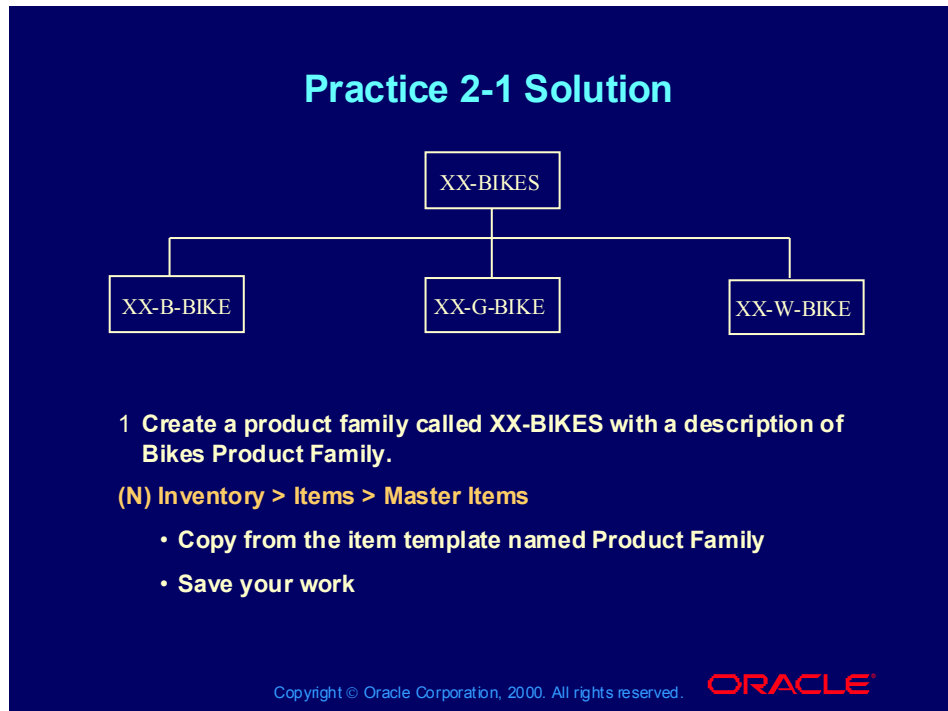
Practice 2-1

- 1 Create a product family called XX-BIKES with a description of Bikes Product Family.
- 2 Create family member items for the following:
 - XX-B-BIKE (Blue Bike)
 - XX-G-BIKE (Green Bike)
 - XX-W-BIKE (White Bike)
- 3 Assign members to the product family.
- 4 Assign planning percentages to your product family.

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE®

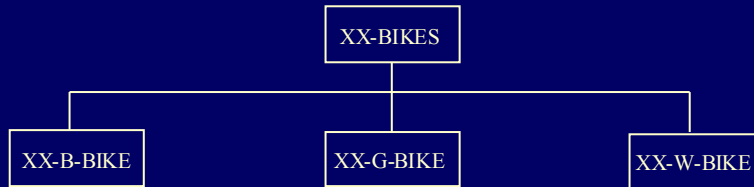
Practice 2-1 Solution



(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Creating a Product Family

Practice 2-1 Solution

Practice 2-1 Solution



2 Create family member items for the following:

- **XX-B-BIKE** (Blue Bike)
- **XX-G-BIKE** (Green Bike)
- **XX-W-BIKE** (White Bike)

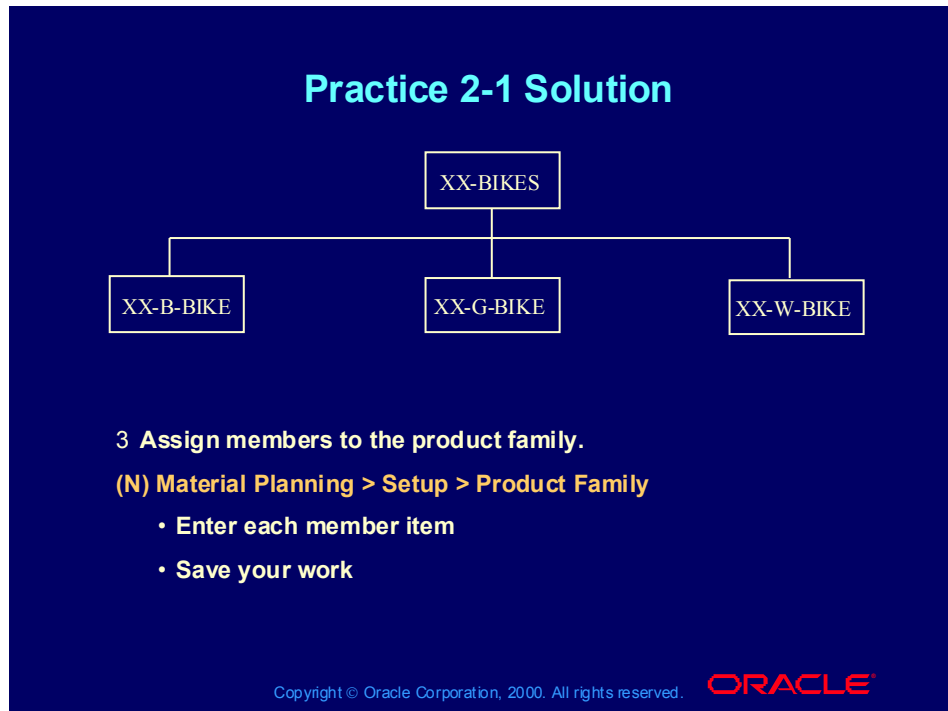
(N) Inventory > Items > Master Items

- Copy from the item template named Subassembly
- Save your work

Copyright © Oracle Corporation, 2000. All rights reserved.

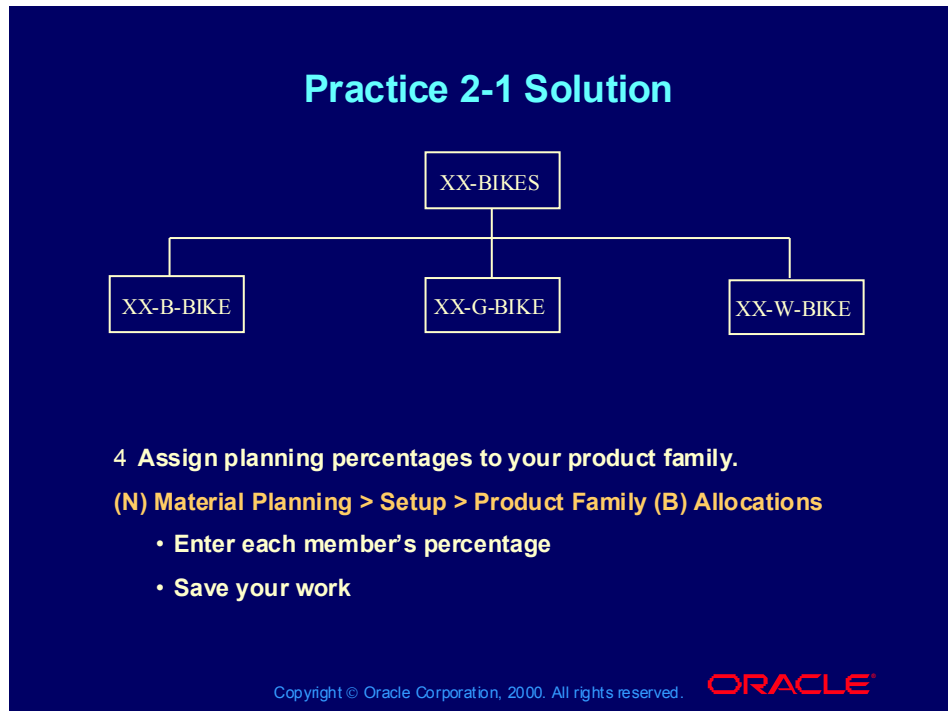
ORACLE

Practice 2-1 Solution



(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Assigning Product Family Members

Practice 2-1 Solution



(Help) Oracle Manufacturing Applications > Oracle Bills of Material >
Bills of Material > Assigning Product Family Members > Related Topics >
Setting Planning Percentages for Product Family Members

Course Summary

You should now be able to do the following:

- **Explain the concepts with planning, model, and option bills of material**
- **Describe the steps in creating product families**

Copyright © Oracle Corporation, 2000. All rights reserved.

ORACLE