



The ol' form is looking pretty good so far, isn't it? But there's still a lot more we can do to ensure that people don't mistype information. Imagine that you would use the results of this form to compile a list of items that need to be ordered. If people can't remember an item number or if they type in their department name incorrectly, this could give you major headaches. This is where data validation comes in.

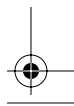
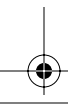
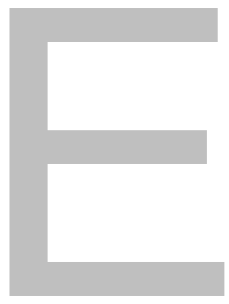
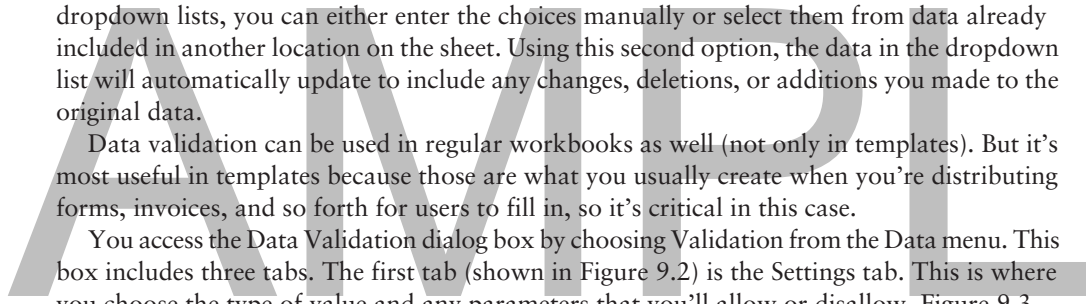
### Using Data Validation to Ensure Accuracy and Consistency

Using data validation, you can insert messages people will see when they click in a cell. You can provide information, give warnings, or actually stop them from making an incorrect entry. You can specify whether a value has to be within a specific range (for example, between 10 and 20 or greater than 15). You can specify what type of value it must be (number, date, etc.). You can even indicate the length of text allowed in a cell.

Another helpful feature of data validation is that it lets you add dropdown lists to cells so users don't have to type anything at all but instead just choose from the list. When you create dropdown lists, you can either enter the choices manually or select them from data already included in another location on the sheet. Using this second option, the data in the dropdown list will automatically update to include any changes, deletions, or additions you made to the original data.

Data validation can be used in regular workbooks as well (not only in templates). But it's most useful in templates because those are what you usually create when you're distributing forms, invoices, and so forth for users to fill in, so it's critical in this case.

You access the Data Validation dialog box by choosing Validation from the Data menu. This box includes three tabs. The first tab (shown in Figure 9.2) is the Settings tab. This is where you choose the type of value and any parameters that you'll allow or disallow. Figure 9.3 shows the second tab, which is where you enter the *input message* that will appear when the cell is selected. (Remember the message you saw in Microsoft's Invoice template when you clicked the cell at the top of the sheet?) And, finally, the third tab, shown in Figure 9.4, is the



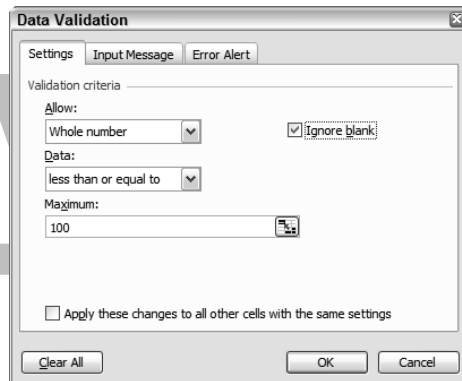
Error Alert tab; this is where you choose the level of control you want and add the message users will see if they enter something outside the parameters you specified on the Settings tab. There are three levels of control:

**Stop** This one displays a red circle containing an X and will not allow users to override it. The only option they will have is to correct the data to meet your control criteria.

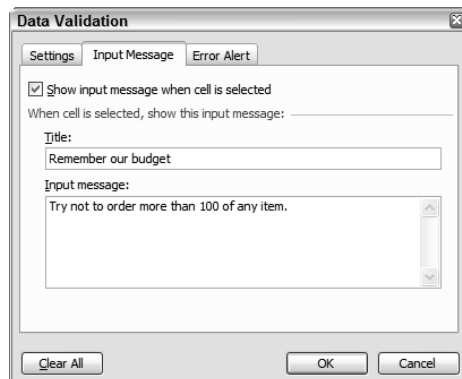
**Warning** This one displays a yellow triangle containing an exclamation point. In this case, users are being warned that what they are doing is not what you recommend, but they can choose to override your choice with their own if they feel it is necessary.

**Information** In this case, they see a callout bubble with an “i” in it. This is usually just information you’re supplying to guide them, but they will make their choices on their own.

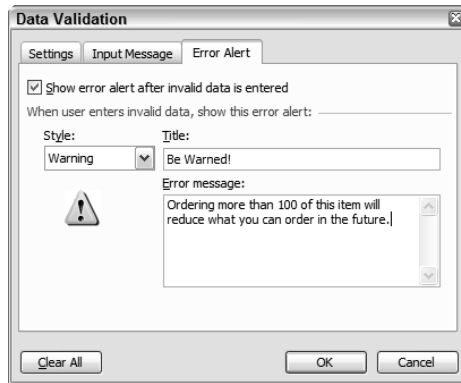
**FIGURE 9.2** The Settings tab of the Data Validation box lets you choose what data can be entered.



**FIGURE 9.3** The input message is what users see when they select the cell.



**FIGURE 9.4** The Error Alert type determines the level of control you have over the input.



In Exercise 9.4, we look at some different ways to use data validation.

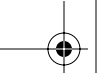
#### EXERCISE 9.4

##### Applying Data Validation to Cells in a Template

1. With your Supply Request template still open, select the range C8:C20 on the Request Form sheet. Then choose Data > Validation.
2. On the Settings tab, choose Whole Number from the Allow dropdown; choose Less Than Or Equal To from the Data dropdown; and type **100** in the Maximum box. Be sure that Ignore Blank is selected and that Apply These Changes To All Other Cells With The Same Settings is not (see Figure 9.2).
3. Select the Input Message tab and make sure that Show Input Message When Cell Is Selected is selected. In the Title box, type **Remember our budget** and in the Input message box, type **Try not to order more than 100 of any item.** (See Figure 9.3.)
4. On the Error Alert tab, make sure that Show Error Alert After Invalid Data Is Entered is selected. From the Style dropdown, choose Warning. In the Title box, type **Be Warned!** and in the Error message box, type **Ordering more than 100 of this item will reduce what you can order in the future.** (See Figure 9.4.) Click OK.
5. Select cell C8 and note the input message. Type **100** and press Enter.
6. In cell C9, type **200** and press Enter. When you see the warning message, click Yes to override the warning.
7. Delete the values you typed in cells C8 and C9.

**EXERCISE 9.4 (continued)**

8. Select cell B4 and return to the Data Validation box. On the Settings tab, choose Text Length, then choose Greater Than and type **2**. On the Input Message tab, leave the Title box empty and type **Enter your full name** as the Input message. On the Error Alert tab, choose Stop from the Style dropdown. Type **Incorrect Name** in the Title box and **You must enter your FULL name!** in the Error message box. Click OK.
9. Cell B4 should still be selected. Note the input message. Type **AI** and press Enter. When you see the error box, note that you can choose only Retry or Cancel because you chose the Stop style Error Alert. Click Retry and type **Albert Smith**. Press Enter.
10. Return to cell B4 and press the Delete key to delete the content.
11. Click Save to update the file.
12. Select cell B5 and return to the Data Validation dialog box.
13. On the Settings tab, choose List from the Allow dropdown. In the Source box, type **Construction,Accounting,Sales,Management** (note the words are separated by commas, with no spaces). Be sure Ignore Blank and In-Cell Dropdown are selected. Click OK.
14. In cell B5, use the dropdown to choose Accounting. Press Enter.
15. Return to cell B5; highlight Accounting and press the Delete key to remove it. Type **Maintenance** and press Enter. An error message tells you that you can't do this. This is the default error shown when you don't add a message on the Error Alert tab. Click Cancel.
16. Choose Format > Sheet > Unhide to see the Items sheet again.
17. On the Items sheet, copy the range A2:A9. Go back to the Request Form sheet and paste this list in cell F1. Hide the Items sheet again.
18. Select the range A8:A20 and return to the Data Validation box.
19. On the Settings tab, choose List from the Allow dropdown. Click in the Source box, then drag to select cells F1:F8 on the worksheet so that Excel enters the range into this box. Click OK.
20. On the Request Form sheet, select any cell in column F and choose Format > Column > Hide to hide the data you put in column F.
21. Select cell A8 and choose 404A from the dropdown. Note that Excel also enters the description "Standard Nails (100)" in B8, because of the VLOOKUP formula.
22. Return to A8 and delete the data. (Doing so also removes the data from B8 because of the VLOOKUP formula.)
23. Make sure there is no data in the form (in other words, no information relating to a specific order), but leave the formulas and data validation in the template. Then click Save to update the template.



### EXERCISE 9.4 (continued)

24. From the Drawing toolbar, select the Textbox tool and draw a text box below the date in cell C3. Change the text box font to Dark Blue, bold, and fill the box with Light Yellow. In the box, type **Find an Item Number** (press Enter after the word *an* to put the text on two lines). Move and resize the text box to your liking; then make sure the boundary around the text box shows the dots (not the slashes) and click the Hyperlink button on your Standard toolbar. Browse to the file Exercise 9-3.xls, which you extracted from the zipped file for this chapter. Once you select this file, click OK.
25. Click the new button you just made to view the list of items. If you see a security warning about the “danger” of hyperlinks, just click Yes. This opens the file to display all the item numbers. Close Exercise 9-3.xls. Click Save to update your template and close the template.



After you created the button to link to the other file (in step 24 of Exercise 9.4), you may find a need to edit it; however, you can't click on it because doing that launches the hyperlink. If you want to select a linked object to edit it, right-click on it first to select it; then you can edit it normally.

Well, we're almost there. Now we have a really easy-to-use template that's set up to restrict the input of data to meet our requirements. Next, in Exercise 9.5, we will use the template and then locate invalid data to correct it and remove data validation from some cells.