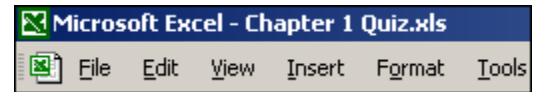


Creating an Assessment Tool in Excel 2000/XP

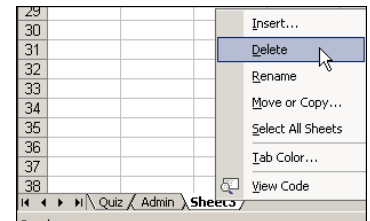
This document shows users how to create an assessment tool for their classroom. This testing system is automatically graded and scored, which aids the instructor in the testing process. In this tutorial, security measures are built into the Excel workbook, which ensure testing integrity. This tutorial can be modified after learning the appropriate steps to any mode of testing.

The First Steps

1. Open *Microsoft Excel* to a blank workbook.
2. Save the workbook to with a filename that is appropriate for your needs by clicking **FILE > SAVE** located on the standard menu.

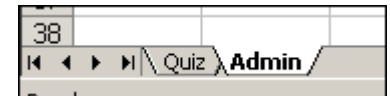


3. Label your worksheets in your workbook for organizational purposes. Double-click **Sheet 1** and name it **Quiz**. Press the **ENTER** key on your keyboard to accept the changes.



4. Double-click **Sheet 2** and name it **Admin**. You can name **Sheet 1** and **Sheet 2** anything that you want for your purposes. Press the **ENTER** key on your keyboard to accept the changes.

5. Right-click **Sheet 3** and click **Delete**. You should now have only two sheets in your workbook.



Creating the Test

1. For this assessment, we will be creating a multiple-choice and true/false quiz. You can adapt this later for your purposes once you get the techniques down in the creation process. Type **Chapter 1 Quiz - (Today's Date)** in **CELLA1** in **Sheet 1**.
2. Type **Name** in **CELLA3**. Type **Question** in **CELLA5**.
3. Type **Answers** in **CELLC5**. Type **1** in **CELLA7** and type **2** in **CELLA8**. Your worksheet should look like the image shown to the right.

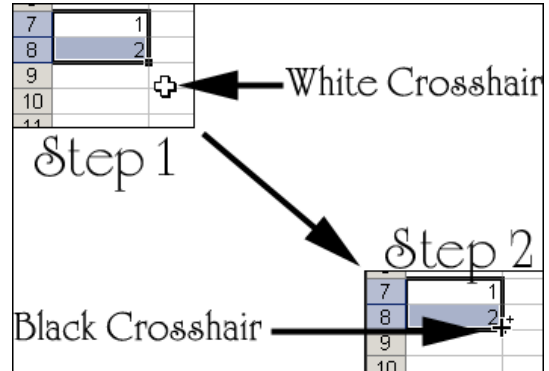
	A	B	C	D
1	Chapter 1 Quiz - January 10, 2002			
2				

	A	B	C	D
1	Chapter 1 Quiz - January 10, 2002			
2				
3	Name			
4				
5	Question		Answer	
6				
7	1			
8	2			

7. Highlight **CELLS A7 and A8** by clicking and holding the mouse button when selecting this range of cells.

5	Question	
6		
7	1	
8	2	
9		
10		

8. Hover your mouse pointer over the lower right fill handle of the highlighted range. This will change your mouse pointer from a **white crosshair** to a **black crosshair**.



9. **Left-click and hold** when your pointer changes to a black crosshair.

10. Drag your mouse pointer down until you get to **CELL A16**. This is called a *click and drag procedure*. Remember this process since we will use it again in this tutorial.

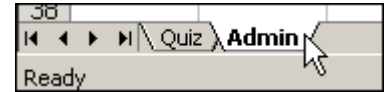
6		
7	1	
8	2	
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		10

	A	B	C	D
1	Chapter 1 Quiz - January 10, 2002			
2				
3	Name			
4				
5	Question		Answer	
6				
7	1			
8	2			
9	3			
10	4			
11	5			
12	6			
13	7			
14	8			
15	9			
16	10			

11. You have now completed the basic setup of the quiz. The worksheet should look similar to the image shown to the left.

Creating the Answer Sheet

- Click the **Admin worksheet** to start editing this worksheet in your Excel workbook.



	A	B	C
1			
2		Answers	Correct
3		A	
4		D	
5		C	
6		A	
7		B	
8		T	
9		T	
10		F	
11		T	
12		F	

- Type the information shown in the image on the right. These values will be typed in **CELL B2 through CELL B12** and **CELL C2** on the **Admin worksheet**.

- Type **Test Score** in **CELL A16**. The labeling on this worksheet is done completely for the instructor.

15			
16	Test Score		
17			

Creating the Scoring System

Based on the answers provided on the Admin worksheet, we must assign a point value for correct answers for this quiz. Again, this feature can be modified for each testing system. We must type a logic function in order to implement the scoring system. The function used in this example is the IF function.

- In **CELL C3**, type **=IF(B3=Quiz!C7,10,0)**. This can be done by a function wizard as well. But, this method speeds up the process.
- Press the **ENTER** key on the keyboard to complete the function.

	A	B	C	D	E	F
1						
2		Answers	Correct			
3			=IF(B3=Quiz!C7,10,0)			
4		D	IF(logical_test, [value_if_true], [value_if_false])			
5		C				

3. So, what does that gibberish mean? Here is a breakdown of the **IF function** that we created in Excel speak.

	A	B	C	D	E	F
1						
2		Answers	Correct			
3		A	=IF(B3=Quiz!C7,10,0)			
4		D	IF(logical_test, [value_if_true], [value_if_false])			
5		C				

=IF(LOGICAL TEST, VALUE IF TRUE, VALUE IF FALSE)

The **equal sign** is needed to tell Excel that this is a function.

The **Quiz!C7** refers to **CELL C7** on the **Quiz** worksheet.

The **B3** refers to **CELL B3** on the **Admin** worksheet. (There is no **Quiz!** before **B3**.)

The **value if true** is set to **10**.

The **value if false** is set to **0**.

3. **Click and Drag CELL C3 to CELL C12**. This will copy the function that we just created into this range of cells. But, the cell references will change relative to each cell that is copied in this procedure.

	A	B	C
1			
2		Answers	Correct
3		A	0
4		D	
5		C	
6		A	
7		B	
8		T	
9		T	
10		F	
11		T	
12		F	
13			

	A	B	C	D
1				
2		Answers	Correct	
3		A	0	
4		D	0	
5		C	0	
6		A	0	
7		B	0	
8		T	0	
9		T	0	
10		F	0	
11		T	0	
12		F	0	
13				
14				
15				
16	Test Score		=SUM(C3:C12)	
17				

4. Now, we need to calculate the score for the quiz. For this feature, we need to **sum** the values in **CELLS C3 through C12**. To do this, type **=SUM(C3:C12)** in **CELL C16**. Press the **ENTER** key on the keyboard to complete the operation.

Assigning a Letter Grade to the Quiz

- To assign a letter grade to a quiz, type **Grade** in **CELL A18**. In **CELL C18**, type the following IF function that will do the logic for us.

17				
18	Grade		F	
19				

=IF(C16>90,"A",IF(C16>80,"B",IF(C16>70,"C",IF(C16>60,"D","F"))))

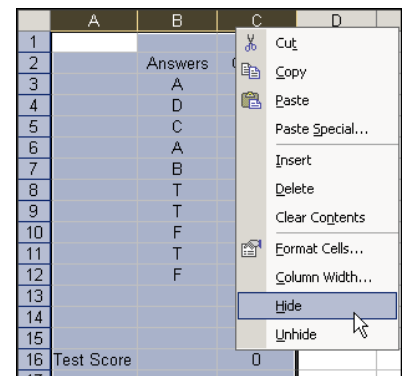
C18	=IF(C16>90,"A",IF(C16>80,"B",IF(C16>70,"C",IF(C16>60,"D","F"))))
-----	---

- Of course, this is an optional and more advanced step. But, it might be something that would be useful for some instructors. The grade ranges can be changed by changing out the number values in this nested IF function.

Adding the Security Component to the Quiz

Excel 2000 Instructions

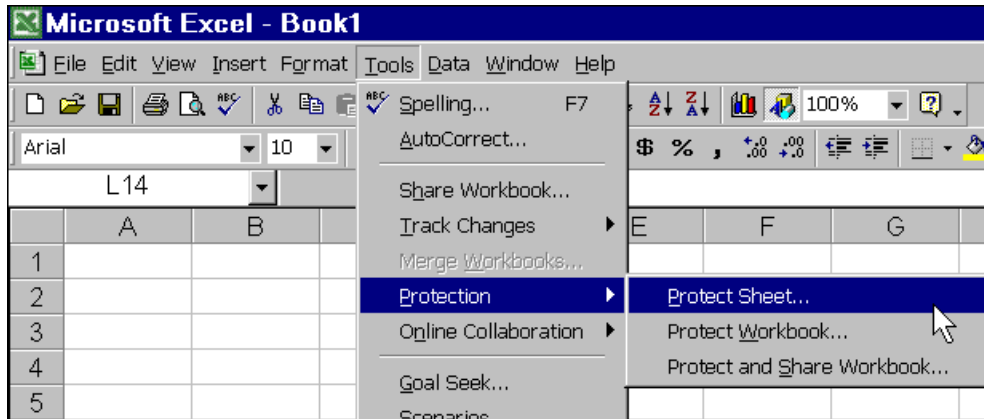
- First, we need to hide the answers and scores in the Admin worksheet. Highlight **COLUMNS A, B and C** by clicking (and holding) on the letters located at the top of each column. Once selected, **right-click** at the top of one of the highlighted columns and click **HIDE** on the submenu.



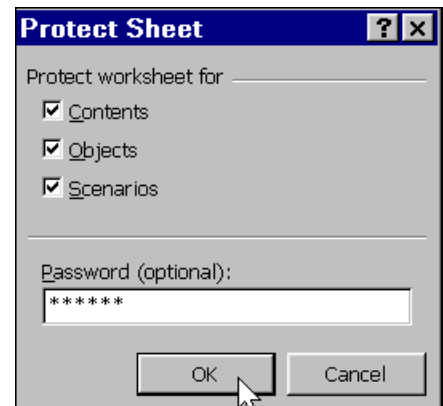
- If done correctly, you should see column labels in the top left of your worksheet that are displayed exactly like the image shown to the right.

	D	E	F
1			
2			
3			
4			

- Next, click **TOOLS > PROTECTION > PROTECT SHEET** on the standard menu.



- Keep all the checked options selected.
- Type a **PASSWORD** into the password text field.
- Click the **OK button** to continue.

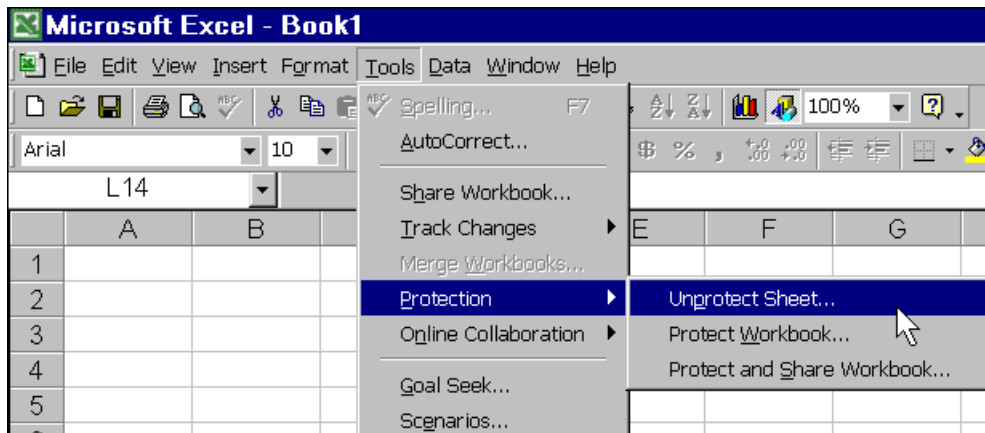


- Retype the **PASSWORD** into the password text field in the **CONFIRM PASSWORD** window.
- Click the **OK button** to continue.



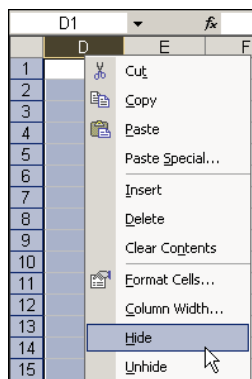
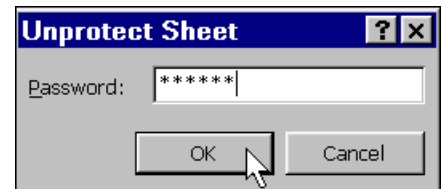
9. Now, your Excel workbook is protected. At this point, the workbook can be used as a testing tool in the classroom. The security cannot be broken. Therefore, the answers will not be seen by students taking the assessment. With this being said, be sure to **REMEMBER YOUR PASSWORD** for the workbook. If it is forgotten, you will not be able to use the workbook again.

10. To record the grades for the quiz after the assessment, the teacher will need to unprotect the sheet and unhide the columns that did the scoring for the quiz. Click **TOOLS > PROTECTION > UNPROTECT SHEET** on the standard menu to unlock the sheet.



11. Type the **PASSWORD** for this workbook into the password text field in the **UNPROTECT SHEET** window.

12. Click the **OK button** to continue.



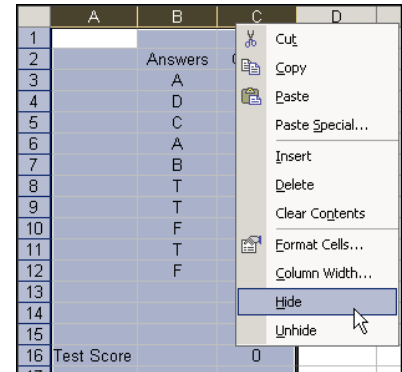
13. Now, we need to unhide the columns. Select **COLUMN D** and the **ROW NUMBERING COLUMN** by clicking and dragging in a right to left fashion.

14. **Right-click** at the top of one of the highlighted columns and click **UNHIDE** on the submenu.

15. Congratulations! You can now view and record the grade for this student.

Excel 2002(XP) Instructions

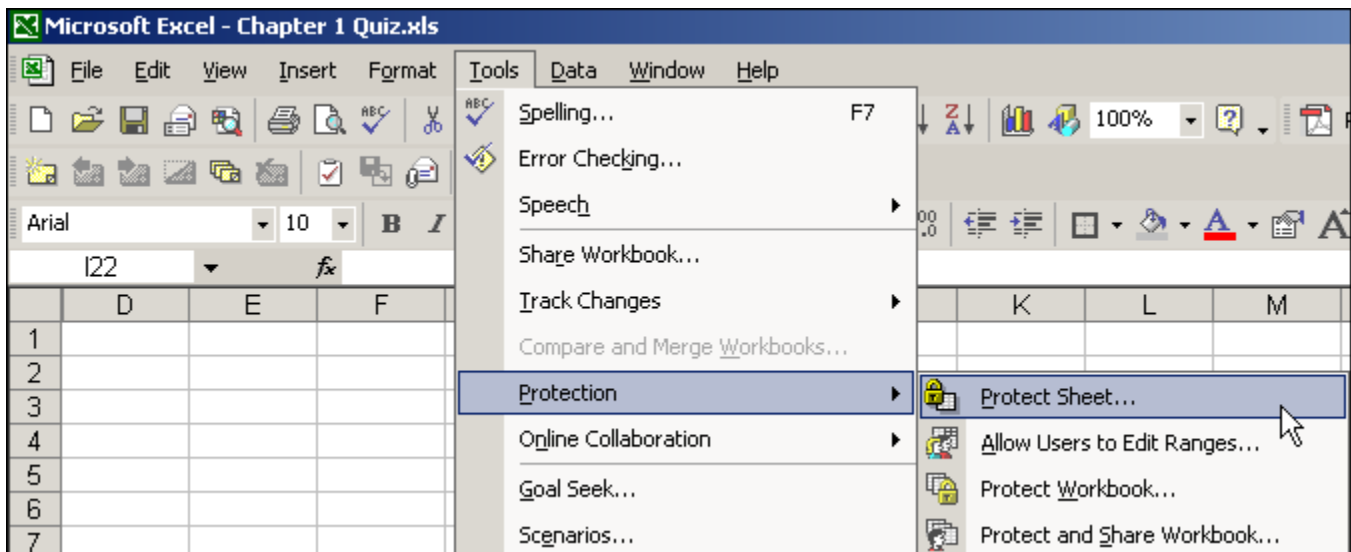
1. First, we need to hide the answers and scores in the Admin worksheet. Highlight **COLUMNS A, B and C** by clicking (and holding) on the letters located at the top of each column. Once selected, **right-click** at the top of one of the highlighted columns and click **HIDE** on the submenu.



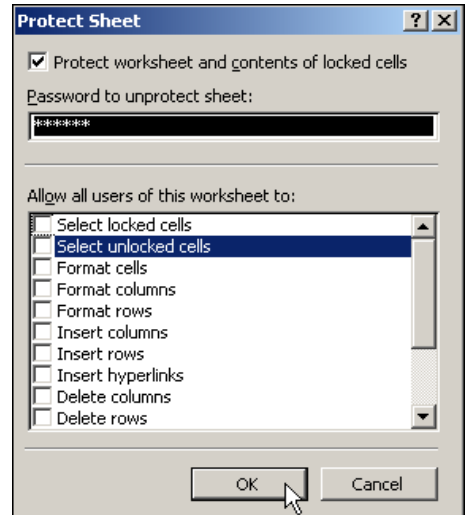
2. If done correctly, you should see column labels in the top left of your worksheet that are displayed exactly like the image shown to the right.

	D	E	F
1			
2			
3			
4			

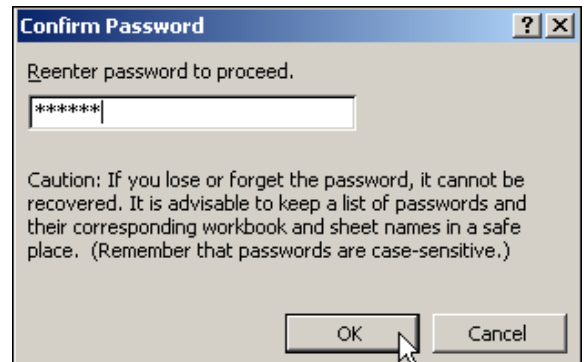
3. Next, click **TOOLS > PROTECTION > PROTECT SHEET** on the standard menu.



4. Deselect the **SELECT LOCKED CELLS AND SELECT UNLOCKED CELLS** in the menu options.
5. Type a **PASSWORD** into the password text field.
6. Click the **OK button** to continue.

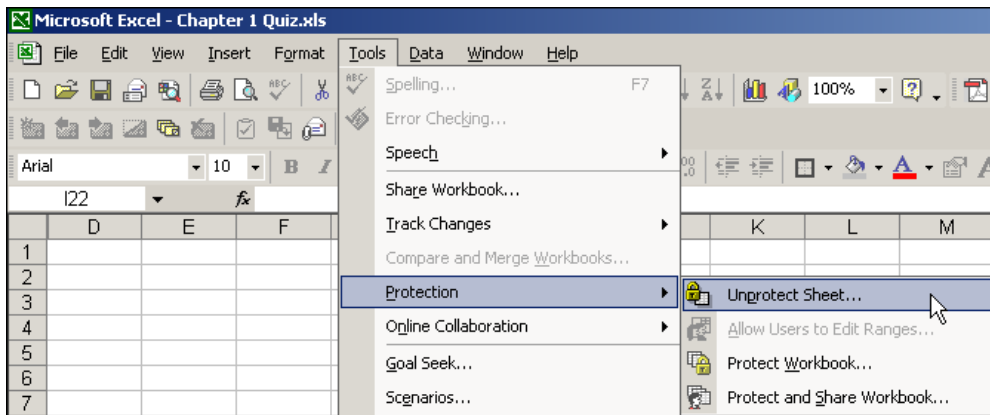


7. Retype the **PASSWORD** into the password text field in the **CONFIRM PASSWORD** window.
8. Click the **OK button** to continue.

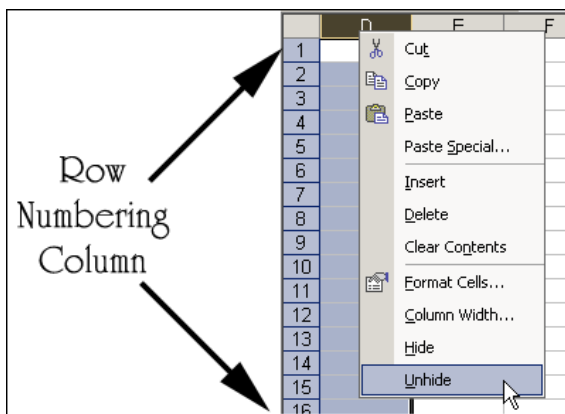
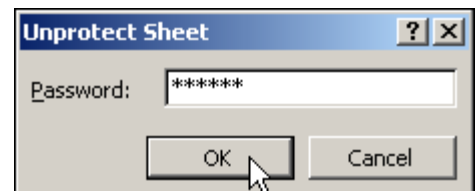


9. Now, your Excel workbook is protected. At this point, the workbook can be used as a testing tool in the classroom. The security cannot be broken. Therefore, the answers will not be seen by students taking the assessment. With this being said, be sure to **REMEMBER YOUR PASSWORD** for the workbook. If it is forgotten, you will not be able to use the workbook again.

10. To record the grades for the quiz after the assessment, the teacher will need to unprotect the sheet and unhide the columns that did the scoring for the quiz. Click **TOOLS > PROTECTION > UNPROTECT SHEET** on the standard menu to unlock the sheet.



11. Type the **PASSWORD** for this workbook into the password text field in the **UNPROTECT SHEET** window.
12. Click the **OK** button to continue.



13. Now, we need to unhide the columns. Select **COLUMN D** and the **ROW NUMBERING COLUMN** (by clicking and dragging in a right to left direction).
14. **Right-click** at the top of one of the highlighted columns and click **UNHIDE** on the submenu.
15. Congratulations! You can now view and record the grade for this student.

If you want to make your assessment more pleasing, you can format the test in whatever manner you choose. In this example, the following was done:

1. Cells A1 through A5 were merged.
2. All of the labels were made bold.
3. Columns A and C were centered.
4. Cells B3 through D3 were given a bottom border and merged.
5. The range of cells A5 to C16 were given borders.
6. The range of cells A5 to C16 were given a gray fill color.

As you can see, this testing tool can be customized for the needs of the end user. Keep working on your assessment tool and see what ways it can work for you.

	A	B	C	D
1	Chapter 1 Quiz - January 10, 2002			
2				
3	Name			
4				
5	Question		Answer	
6				
7	1			
8	2			
9	3			
10	4			
11	5			
12	6			
13	7			
14	8			
15	9			
16	10			
17				

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