



# Expanding Educational Horizons

Caenwood Centre, Grant Hall, 37 Arnold Road, Kingston 5

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## Creating Quizzes using Microsoft Excel

August 2009



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## Introduction

Microsoft Excel offers an excellent way to both construct a quiz and score it. You can create a quiz with instructions, question items, and answer boxes; and total scores. This manual provides step-by-step information on how to use Microsoft Excel to create quizzes. The manual was developed for Expanding Educational Horizons (EEH) teachers and require that users have basic knowledge of Excel and want to learn how to use it to create quizzes. Basic spreadsheet concepts are not explained.

## Objectives

At the end of the sessions you will be able to use Microsoft Excel to:

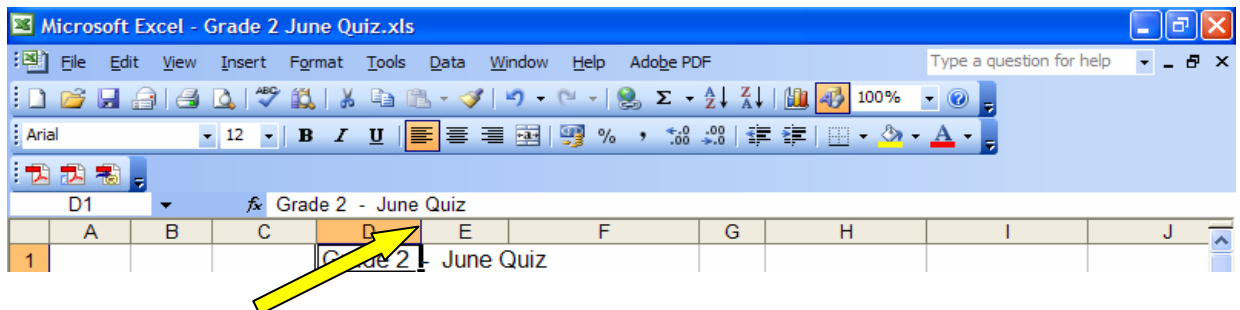
1. Construct a quiz
2. Generate scores and comments for each answer
3. Format the appearance of the quiz
4. Protect the quiz from being changed by the user(s)

## TASK 1: CONSTRUCTING THE QUIZ

### 1.1 Enter headings

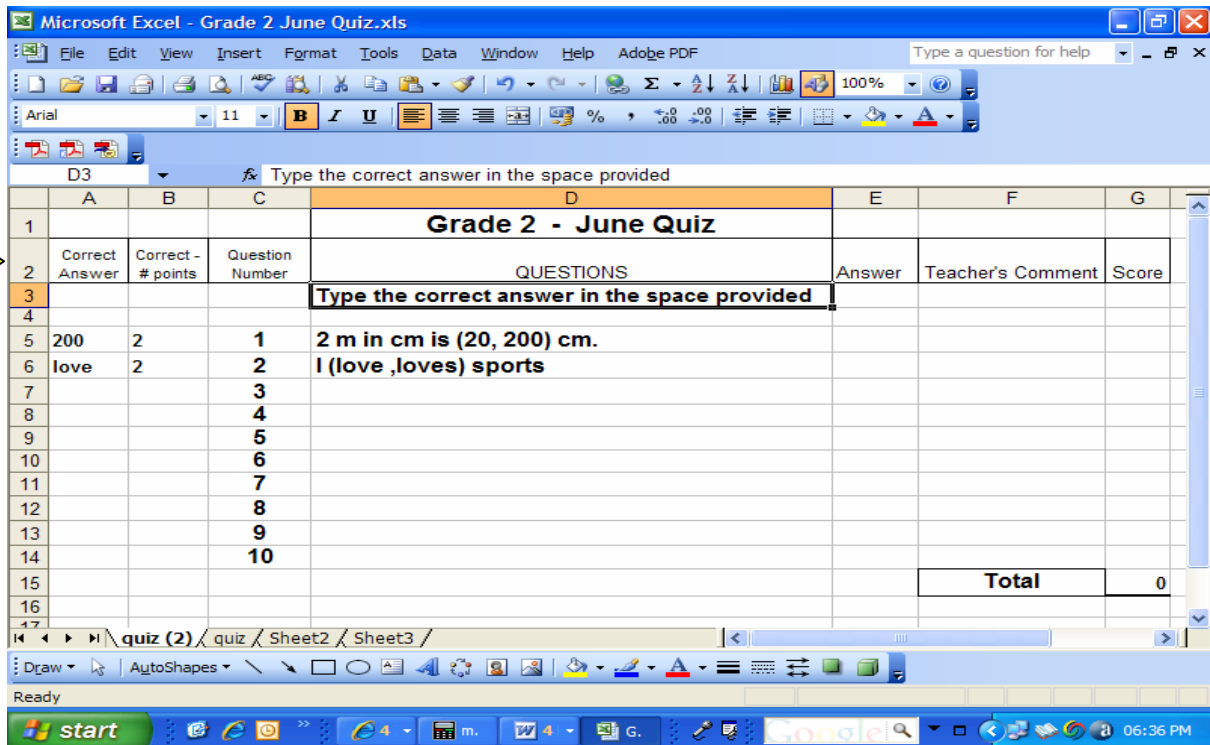
1. Type the title of the quiz in cell D1 eg. Grade 2 – June Quiz.

Notice that the cell appears in a bold/dark square, which indicates that the cell is now active. It is important to note that if the instruction is more than 9 characters it will appear to overflow the current cell and will be displayed/seen in the adjoining cells. Do not be alarmed--the instruction is really stored in the cell that it was typed in. To expand the cell so that the entire content can be seen, place the mouse pointer on the line separating column D and E and then double-click and the cell will widen so that the content is shown in that cell only. See an alternative way using Merge and Centre 3.3 below.



2. In Row 2 type the following titles. You can move on to another cell or item by either pressing the **Tab key** on the keyboard to advance across the row.
  - In Column A - Correct Answers
  - In column B – Correct # points
  - In Column C - Question Number
  - In Column D - Question
  - In Column E - Answer
  - In Column F – Teacher’s Comment
  - In Column G – Score

## 1.2 Enter Instructions and items



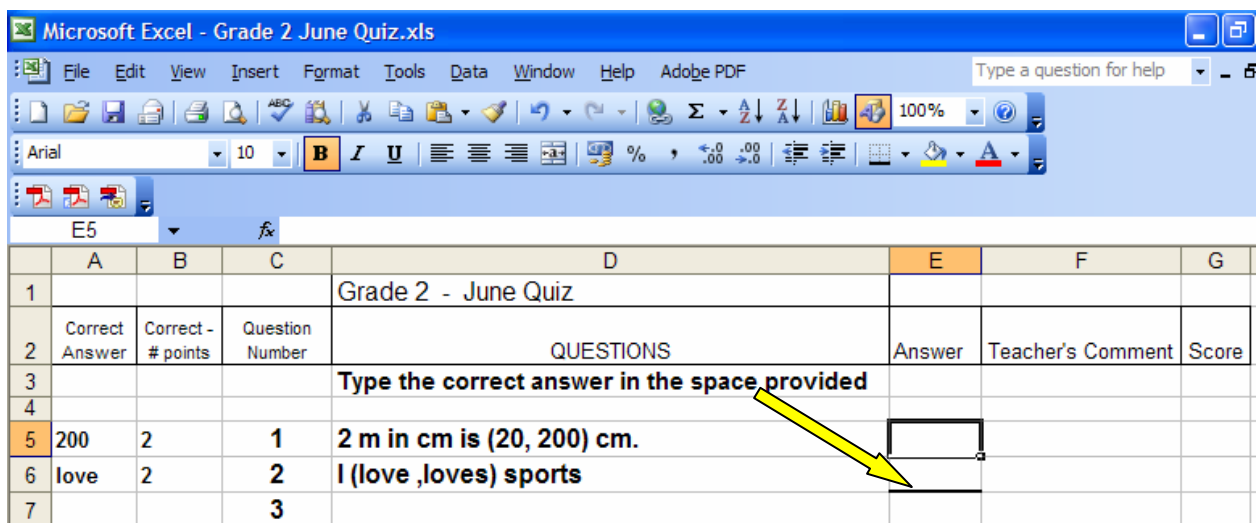
1. In cell D3, Type the instructions for the quiz, such as “Type the correct answer in the space provided “.
2. You can move on to another cell or item by either pressing the **Enter key** to advance down the column or. Press the **Enter key** twice and type “2 m in cm is (20, 200) cm” in cell D5.
3. Press the **Enter key** and type “I (love ,loves) sports.” in cell D6.
4. Click in cell A5 and type the correct answer for the question eg. 200
5. Press the **Tab key** to advance to cell B5 and the type the number of points to be awarded for the correct answer eg. 2
6. Press the **Tab key** to advance to cell C5 and the type the question number eg. 1
7. Click in cell A6 and type the correct answer for the second question eg. Love.
8. Press the **Tab key** to advance to cell B6 and the type the number of points to be awarded for the correct answer e.g. 2.
9. Press the **Tab key** to advance to cell C6 and the type the question number eg. 2

## 1.3 Edit heading, instruction or items

1. If you need to change/edit the heading, instructions or an item, you can do this in two ways. Either click on the cell to be edited where the text was typed or use the cursor movement keys on the keyboard to navigate to the cell.
2. Once you are at the cell and want to move to the place in the text where you want to make a change, press **F2** key on the keyboard. This displays the insertion point at the end of the text. Then use the **arrow** keys on the keyboard to move the insertion point to where the changes are to be made. An alternative way to do this is to place the mouse pointer in the formula bar where you want the change to be made and click the left mouse button to place the insertion point where the change will be made.
3. Make your changes - - Inserting, overwriting or deleting the characters.
4. Then press the **Enter** or **Tab** key on the keyboard to advance.

## 1.4 Creating space for the answers

When you are entering quiz items, remember that you need to leave a space for the answer. You may also want to draw a solid line in the cell where the answer is to be typed. You can do this in two ways.



	A	B	C	D	E	F	G
1				Grade 2 - June Quiz			
2	Correct Answer	Correct - # points	Question Number	QUESTIONS	Answer	Teacher's Comment	Score
3				Type the correct answer in the space provided			
4							
5	200	2	1	2 m in cm is (20, 200) cm.			
6	love	2	2	I (love ,loves) sports			
7			3				

### 1.4.1 Draw a solid line at the bottom of the cell using the Dash key ( \_ )

1. Click on the cell where the line is to be drawn. ( See diagram above)
2. Hold the **Shift key** down while pressing the **Dash key (-)** on the keyboard.
3. Keep pressing the dash key while holding down the shift key until you come to the end of the cell.

## 1.4.2 Draw a solid line at the bottom of the using the border icon

1. Select the cell.
2. Click on the arrow head beside the Border Icon.



3. Click on the Thick Bottom Border.

## TASK 2: SCORING THE QUIZ

### 2.1 Generating the Teacher's Comment for each answer

To use Excel to mark the quiz and generate your comment or feedback - then you must give the program instructions in the form of a formula. There are two ways. We will present the easiest way to do this first.

#### 2.1.1 Using the fx feature on the formula bar

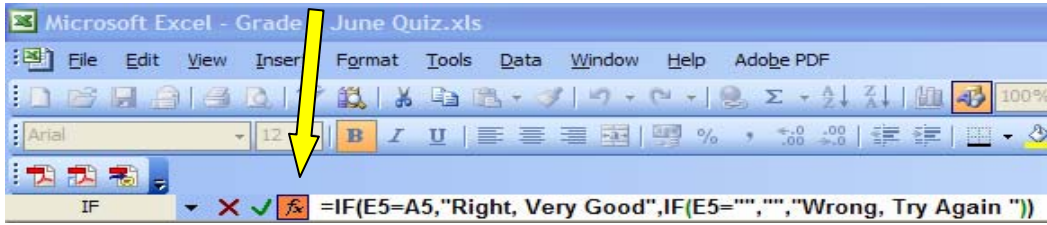
e.g. =IF(logical\_Test,Value\_if\_True,Value\_if\_False) e.g. =IF(E5=A5,"Right, Very Good",IF(E5="", "", "Wrong, Try Again "))

This means if the content in cell E5 is equal to the content A5 then put "Right, Very Good" in the cell however if they are not equal, Excel will look to see whether the cell is blank and if so leave it blank however if it is not blank it will put "Wrong, Try Again" in the cell.

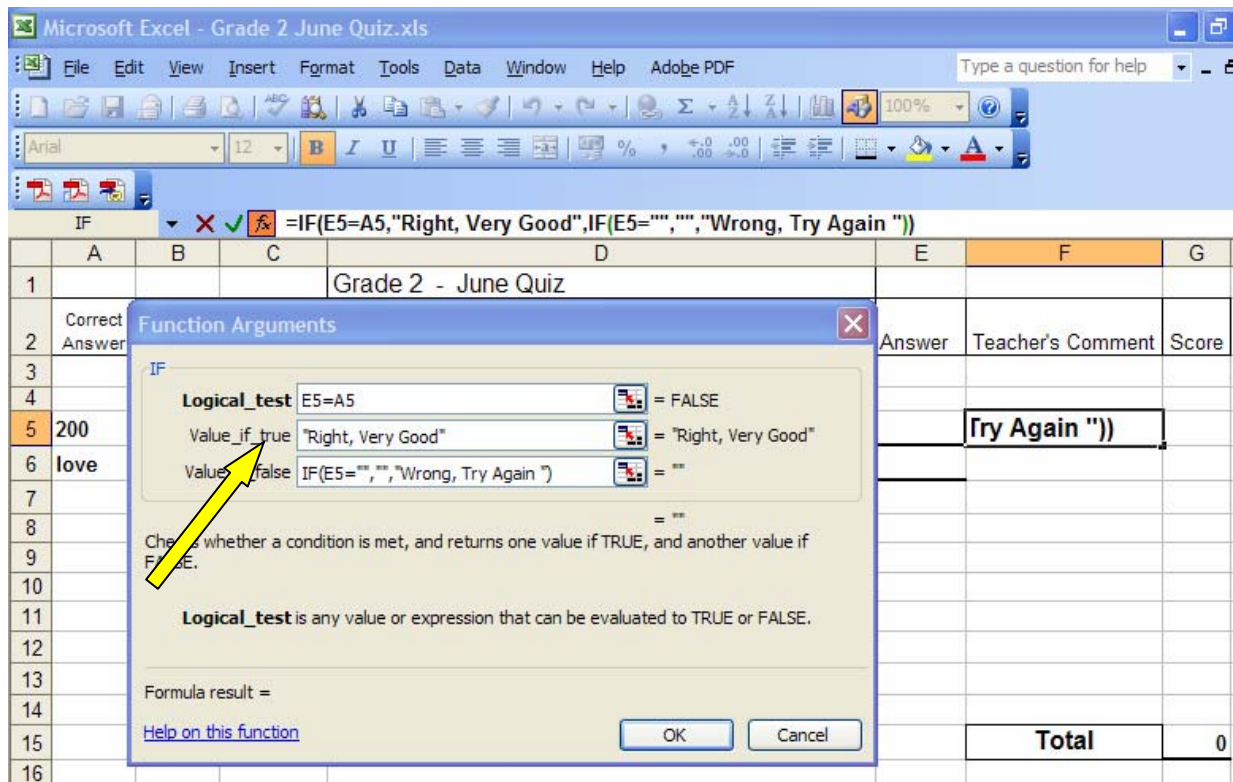
- NO comma after the last cell address,
- NO spaces between the characters and
- NO mathematical signs inside the bracket eg. +

1. Select the cell where the result is to be placed eg, F5.

- Click on the **fx** located on the formula bar. The Insert Function dialogue box will appear. See the figure below.



- Look at the Select a function box and click on **if** (if the function is seen in the box).
- An alternative way to do this is to look at the select a category box and click **logical** and then **if** (if the function is not displayed).
- Click on OK. The Function Arguments box will appear, as shown in the screen below.



- Type in the answer in the logical test box, e.g. `E5=A5` Note we are saying if the answer in cell E5 is equal to the correct answer which is in cell A5
- Press tab.

8. Now we tell Excel what to do when they are equal. Type Right, Very Good in the Value\_if\_true box. Note, Excel will put in double quotes because it is not numeric. Press tab again.
9. Type the value for a false answer (know as the Value if false operation, e.g. IF(E5="", "", "Wrong, Try Again "))
10. Click OK.

## 2.1.2 Type the formula

e.g. =IF(logical\_Test,Value\_if\_True,Value\_if\_False) e.g. =IF(E5=A5,"Right, Very Good",IF(E5="", "", "Wrong, Try Again "))

**This means if the content in cell E5 is equal to the content A5 then put Right, Very Good in the cell however if they are not equal, Excel will look to see whether the cell is blank and if so leave it blank. However if not blank Excel will put Wrong, Try Again.**

1. Click on cell F4 and type the following function, =IF(E5=A5,"Right, Very Good",IF(E5="", "", "Wrong, Try Again ")) and then press **Enter key**

Note

1. NO spaces between the characters and
2. NO mathematical signs inside the bracket eg. +
3. Using the example, " 2 m in cm is (20, 200) cm" and so if the student taking the quiz typed 200 in cell E5, the cell would show "Right, Very Good".
4. If student types the wrong answer, "Wrong, Try Again" shows up and
5. if they put no answer, cell e5, it remains blank.

**Note : Now continue typing the other question. For Example:**

1. Click on cell eg. F6 and using the procedure 1.4.1 or 1.4.2 above enter the formula , =IF(E6=A6,"Right, Very Good",IF(E6="", "", "Wrong, Try Again "))

*Note E5 is now E6 as we are evaluating the answer for the 2<sup>nd</sup> question and a5 is now a6 as that is where the correct answer is stored. Repeat the procedure for each question.*

## 2.2. Generating the score for each question

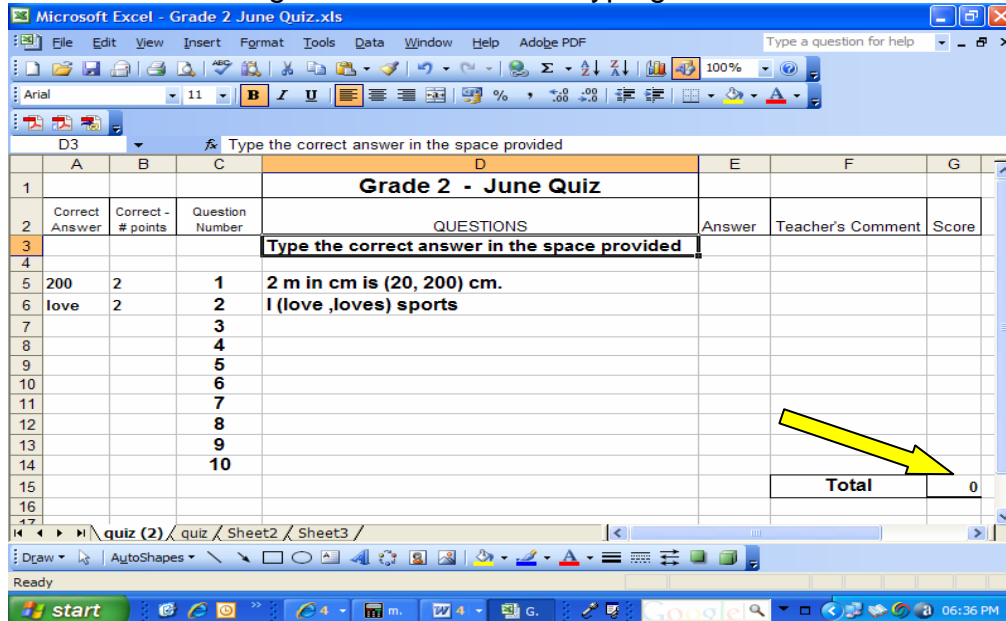
Example =IF(E5=A5,B5,0)

1. Select cell G5 and type =IF(E5=A5,B5,0) or use the procedure outlined above in 1.4.1 to use the formula bar.
2. Press Enter and continue entering the formula for the other questions.

*Note E5 is now E6 as we are evaluating the answer for the 2<sup>nd</sup> question and a5 is now a6 as that is where the correct answer is stored. Repeat the procedure for each question.*

## 2.3. Calculating total scores

Excel can generate the total score. There are many ways to calculate the total scores which include using the formula bar and typing the formula in the cell.



	A	B	C	D	E	F	G
1				<b>Grade 2 - June Quiz</b>			
2	Correct Answer	Correct # points	Question Number	QUESTIONS	Answer	Teacher's Comment	Score
3				Type the correct answer in the space provided			
4							
5	200	2	1	2 m in cm is (20, 200) cm.			
6	love	2	2	I (love ,loves) sports			
7			3				
8			4				
9			5				
10			6				
11			7				
12			8				
13			9				
14			10				
15						<b>Total</b>	0

1. Select the cell where the answer is to be placed e.g. cell G15.
2. Type the formula =sum(G5:G14)
3. Press Enter key.
4. Note: This is the formula for a 10 questions quiz in row 5 to row 14 --adjust accordingly

## TASK 3: FORMATTING THE APPEARANCE OF THE QUIZ

### 3.1 Format Text – font, style, colour, size etc.

1. Select the data to be formatted
2. Click on the appropriate icons. The choices include font type, size, bold, italic, underlining, left align, centre, right align, background colour or text only colour, etc.



Figure – Formatting Toolbar

Please note that the name of the button will appear when you point to it.

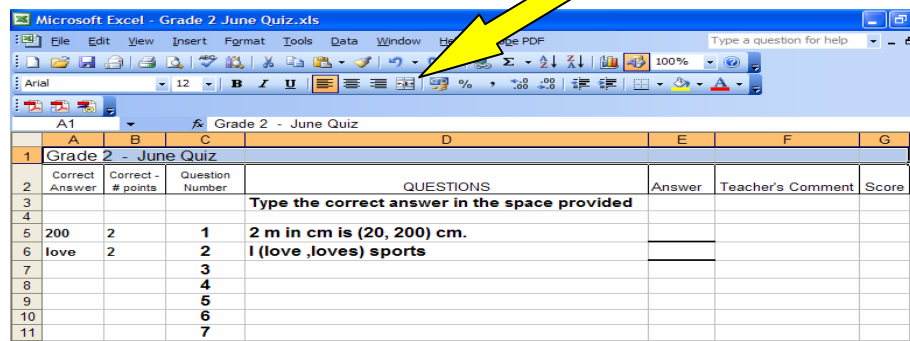
### 3.2 Insert Background Colour

1. Select the cells you want to change the color of.
2. Click on the little arrow head beside the Fill Color icon
3. Click on the colour you want.



### 3.3 Merge and Centre the heading across more than one cell

1. Go to cell A1. Type the heading eg. Grade 2 – June Quiz
2. Select the cells that are to be merged as one by dragging the cross across the columns to the selected cell.

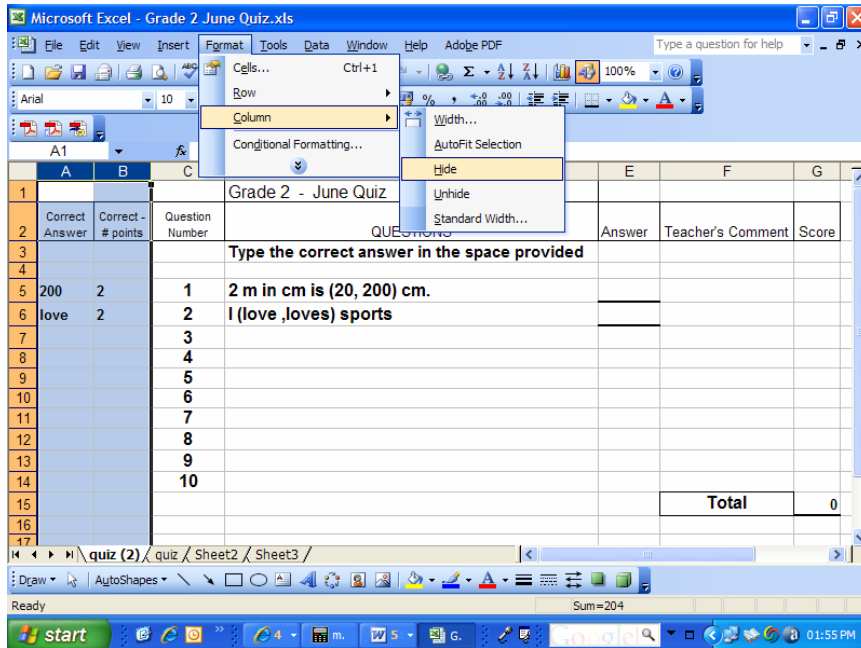


3. Click on the Merge and Center icon ( the icon with the little a)

## TASK 4: PROTECTING THE QUIZ

### 4.1 Hide Column (s)

You need to hide the answers from the students before you send the quiz out.

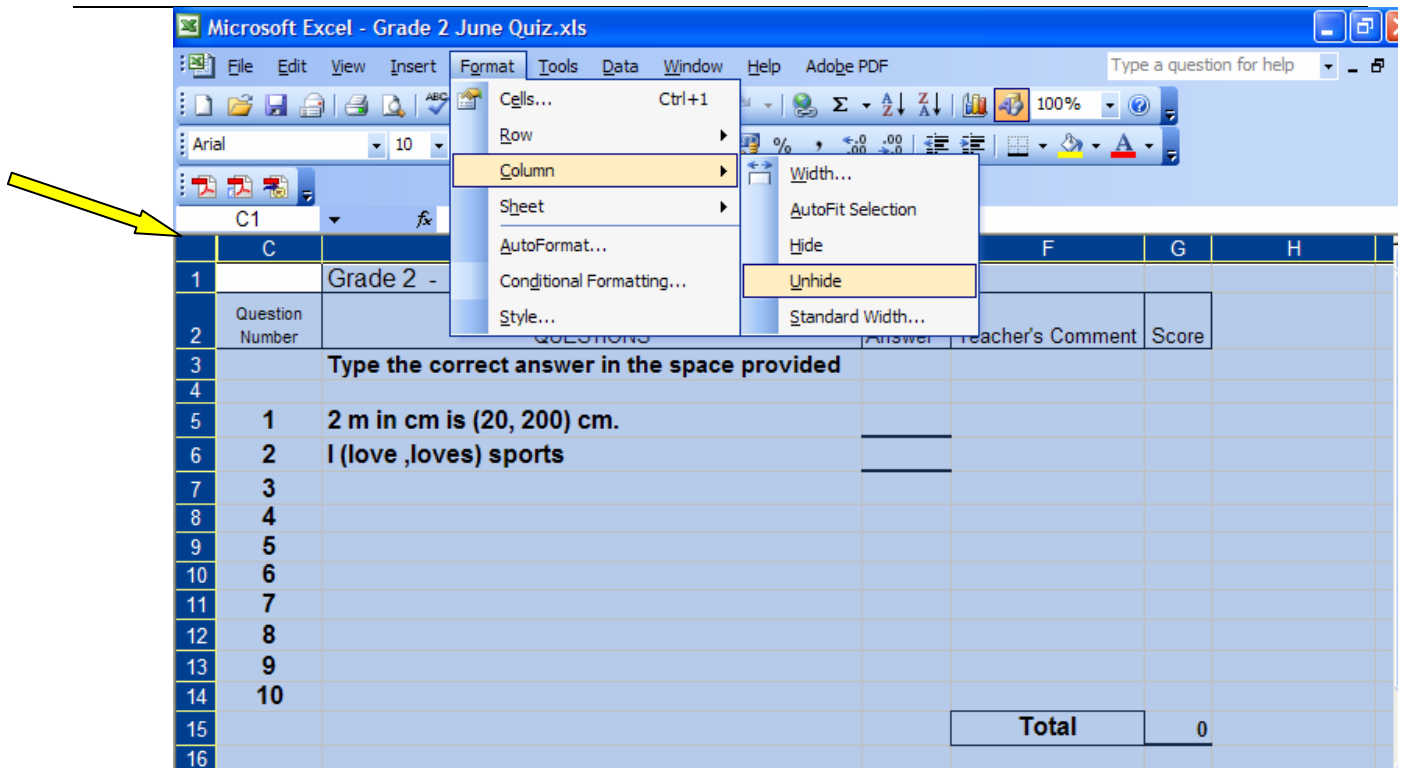


1. Select the column(s) to be hidden.
2. Click on Format
3. Click on Column
4. Click on Hide

*Note the columns will come together as one.*

### 4.2 Unhide Column (s)

To unhide you have to select the columns before and after the hidden columns



1. Select the column(s) to be hidden. One option is to select the entire worksheet by clicking in the corner (See arrow above). After clicking the entire worksheet will be selected.
2. Click on Format
3. Click on Column
4. Click on UnHide

Note: the two hidden column will be shown.

## 4.3 To turn on protection

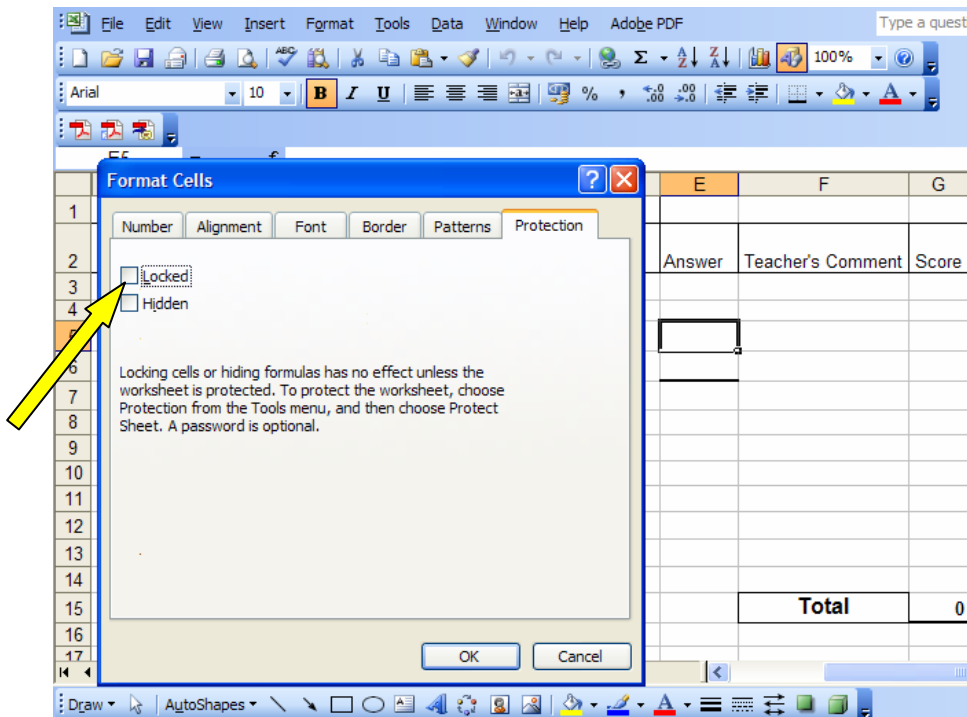
In Excel you can restrict user access to only specific cells. This is done first by un-locking the cells to which entries will be allowed and then turning on protection of the worksheet.

### 4.3.1 To Unlock Cells

To protect the cells so that the students can only type in the cells provided for answers :

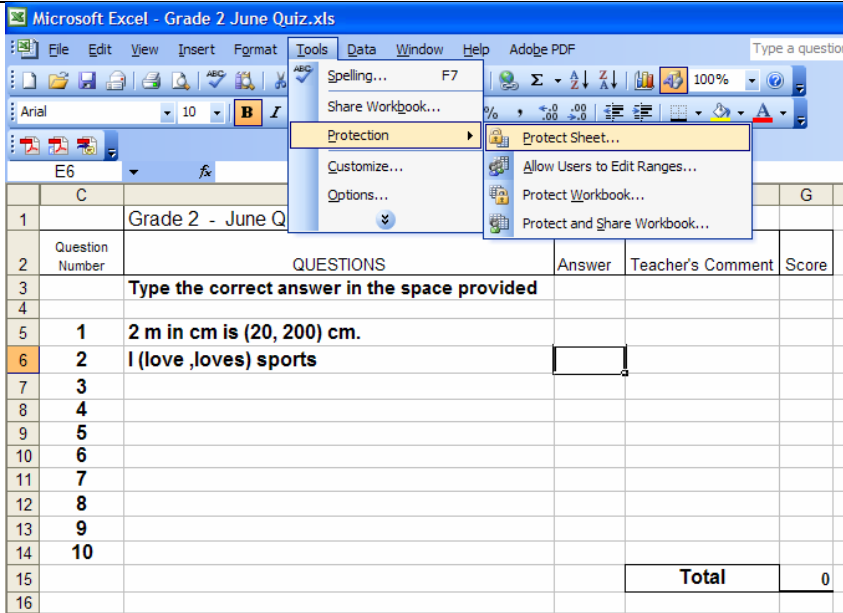
1. Select the cell to be allowed user access.

2. Click on Format
3. Click on Cells
4. Click on Protection
5. Click on the box beside Locked to remove the tick



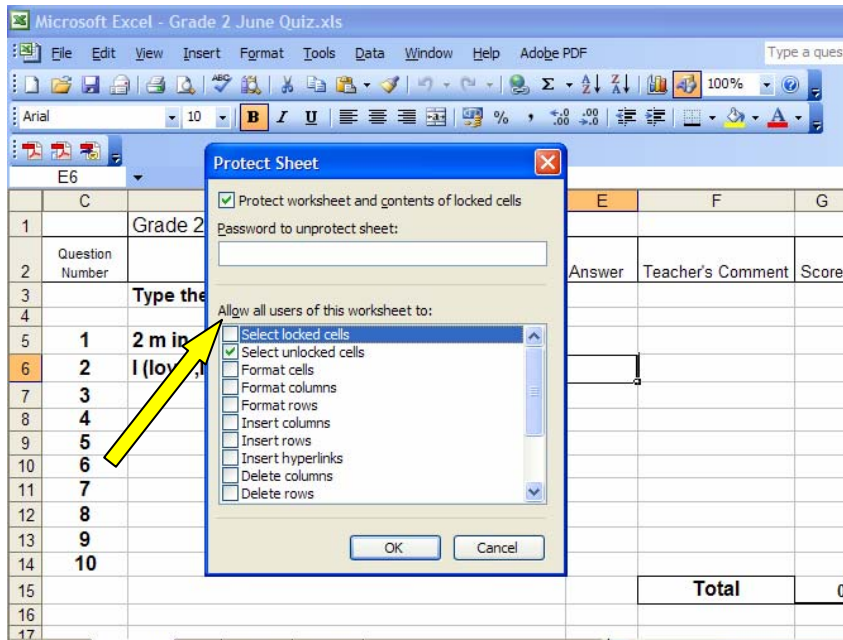
## 4.3.2 Turn on Protection

1. Click on Tools
2. Click on Protection



Question Number	QUESTIONS	Answer	Teacher's Comment	Score
<b>Type the correct answer in the space provided</b>				
1	2 m in cm is (20, 200) cm.			
2	I (love ,loves) sports			
3				
4				
5				
6				
7				
8				
9				
10				
<b>Total</b>				<b>0</b>

3. Click on Protect Sheet



Question Number	QUESTIONS	Answer	Teacher's Comment	Score
<b>Type the</b>				
1	2 m in			
2	I (love ,loves) sports			
3				
4				
5				
6				
7				
8				
9				
10				
<b>Total</b>				<b>0</b>

4. Type a Password and be sure to write it down.
5. Click in the box beside Select locked cells to remove the tick
6. Click OK.
7. Re-enter the password
8. Click OK

