

## 5. Pictures and Graphics

Now you have learned to write text, apply Styles and make a nice page layout. It is time we begin to use pictures and graphics to make the documents a little more exciting and colourful.

In this section you will learn how to insert charts from Excel, SmartArt diagrams and pictures. You will also learn some helpful tricks to place the images exactly where you want them, because this is one point where Word can be a little difficult.

### 5.1 Pictures

You can insert pictures in several ways. For example, you can copy the picture to the clipboard from a visual program or the Internet and paste it directly into the document. Of course you can also select a picture from a file on your computer.

When you copy a picture from the Internet, please be aware that it could be copyrighted. So if you copy an image from the net, it might actually be illegal unless the publisher explicitly has given you permission.

I am only going to show you how to insert a picture from a file. Copying from an image editing program or from the Internet is very easy, and I am sure you can figure it out for yourself.

#### 5.1.1 Insert a Picture from a File

I assume that you have a picture on your computer that you can insert. We return once more to our exercise document.

1. Place the cursor at the end of the document on page 3.
2. Choose the Insert Tab in the Ribbon.
3. Click on the Select Picture button.

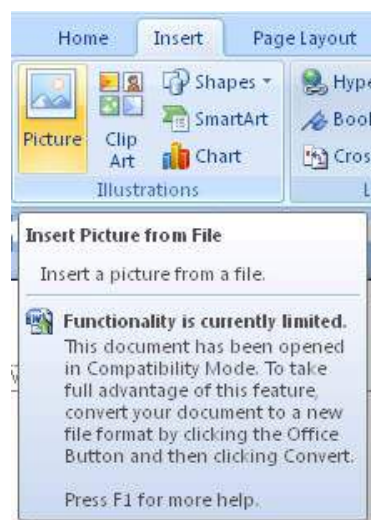


Figure 39: The Select Picture button

This opens a window where you can select a picture file. Word can handle virtually any type of image, including "jpg" files, usually used by digital cameras. Window is probably already displaying the "Images" folder, which is a subfolder of your "My Documents" folder. If it does not open in this folder, you have to search for your pictures.

4. Find a suitable picture and click on the Insert button. Please refer to Figure 40.



Figure 40: Insert picture

The picture has now been inserted. Please note the Ribbon, which now displays a range of features for adjusting the picture.

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### 5.1.2 Adjusting Picture Size

Perhaps you are not satisfied with the size, location, etc of the picture. In my document, the picture is too large for my taste, extending from margin to margin. It has become so large because it is taken in high resolution with a digital camera. If the image were taken in a very low resolution, it might not take up so much space.

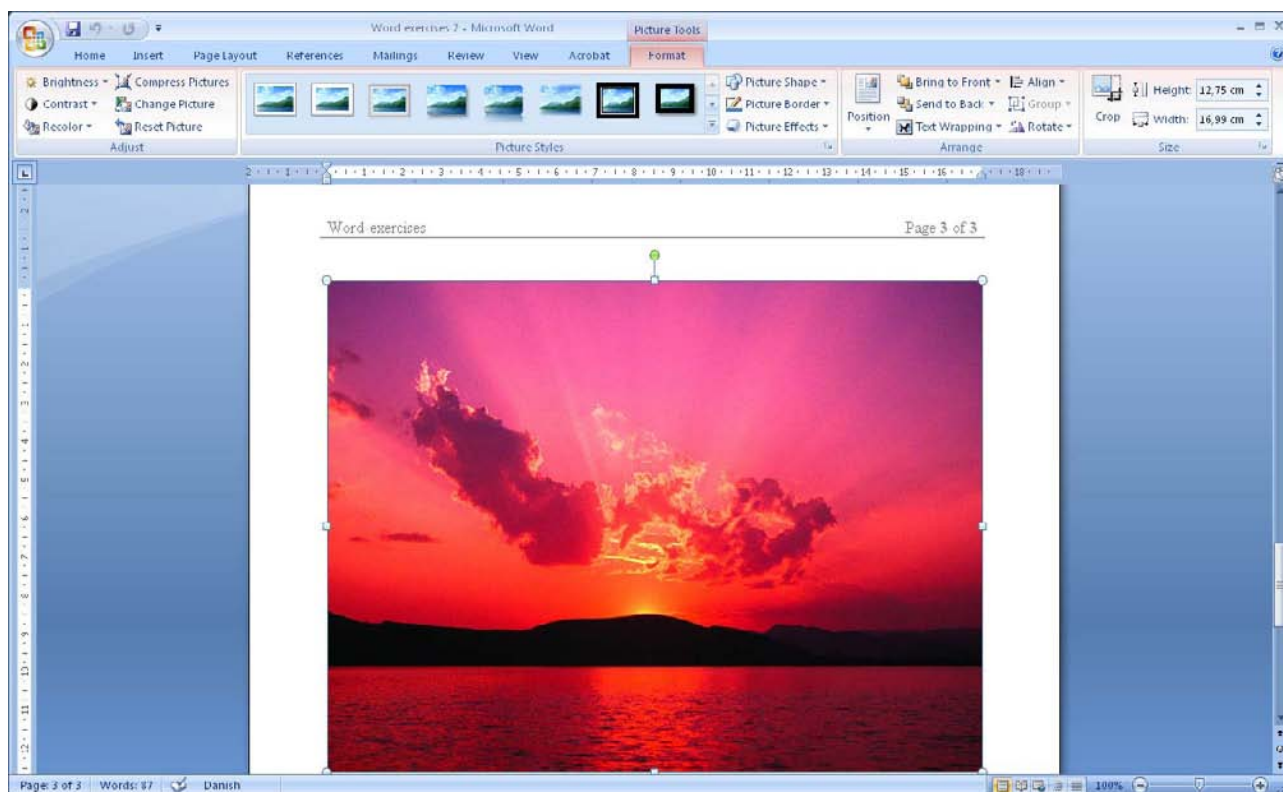


Figure 41: The picture has been inserted in the document

Fortunately, it is possible to adjust the picture in all sorts of ways. We can enlarge and shrink it. We can determine how it should be placed on the page and in relation to text and paragraphs.

It is also possible to do some simple image processing by cropping and adjusting colours, brightness and contrast. You can also add frame and shadow effects and even 3D effects.

5. Ensure the picture is highlighted, and that the Format Tab is selected in the Ribbon.
6. Furthest to the right on the Ribbon, you have the possibility to adjust the height and length of the picture.
7. Click the number indicating the width of the picture.
8. Press the 5 key on the keyboard and press ENTER.

Now the picture is 5 inches wide. Word also adjusts the height of the image accordingly, so the ratio of height to width remains the same.

If you need to change the width without the height changing, you have to enter more detailed settings that are not readily found in the Ribbon. You can enter them by clicking on what I call "The Secret Button" (Figure 48).



Figure 42: The Secret Button

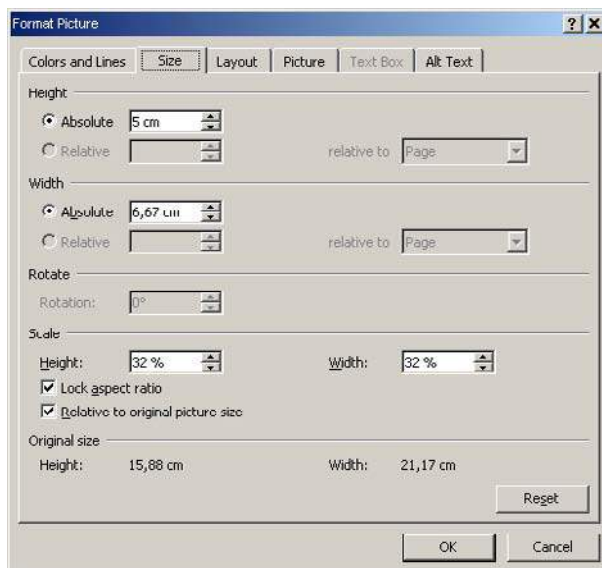


Figure 43: Detailed settings for picture size

Before you change, for example, the width of the picture, remember to clear the Lock Aspect Ratio, then the height will not change.

If you take a look at the Ribbon, you can see there are many opportunities for adding a lot of different effects to your image. You can add borders, shadows, reflections and even three-dimensional effects. I will not review all of that here, but I encourage you to experiment with it yourself.

### 5.1.3 Positioning and Text Wrapping

Positioning pictures has always been a weak spot in Word. Sometimes the pictures suddenly position themselves differently than expected.

In this exercise you will learn about some different adjustment options, so you get the pictures fairly well under control. There are many configuration options and the built-in help function does not tell much about them, so I will explain how I usually do it.

Basically, Word inserts pictures in line with the text. This means that the picture is placed on the text line where the cursor is, and it will therefore move together with the text. This works fine if you insert an image with a size that fills the entire document width, and if you do not use captions. It is also a good solution if you need to insert a very small image as a part of the text, for instance a smiley like this one ☺. But in all other cases you will probably have difficulties placing the photo and caption correctly.

That is why you can choose different ways to "wrap" text around the image, which we will look at in this exercise.

1. Ensure that the picture is selected and that the Format Tab has been chosen in the Ribbon.
2. Click the Text Wrapping button.
3. In the menu that appears, we can already choose one type of text wrapping, but for the purposes of this exercise you must click on More Layout Options, which will open a new window (Figure 44).

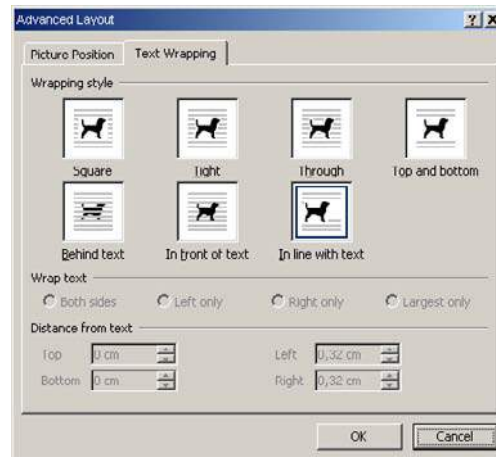


Figure 44: Text Wrapping

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In the window, there are different types of text wrapping to choose from. In the example given, In Line With Text has been selected. This option is only suitable for very small pieces of graphics that you want to be part of the text. I use Square and Top and Bottom almost all the time, as they meet most needs. The icons exemplify the wrapping style.

The Types Behind Text and In Front Of Text are somewhat special, since they just let the text pass. Behind Text may be used if you want to create a watermark effect.

The Types Tight and Through are also rather special because they make the text snuggle close to the picture. This makes no sense if the picture is square and placed normally. But if you have rotated the picture 45 degrees, or if it is triangular in shape for example, it can give a very nice effect.

4. If you Click on Square, you will notice that you are able to adjust how far the text should be from the picture. However, we will not go into that now.
5. Click on the Picture Position Tab You now see the advanced options for the location of the image.

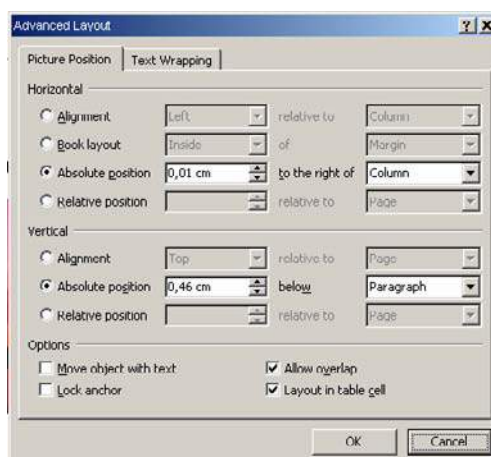


Figure 45: Advanced picture positioning.

My experience is that you should not change too much here. Both the horizontal and the vertical position should be set as Absolute Position. If you have trouble controlling the picture I would recommend that you change Paragraph to Line, so it is in the right place. I usually do that myself because it makes it easier to move the picture around.

6. Under "Vertical", ensure that Absolute Position is selected, and by "Under" select Line on the list.
7. Click on OK.
8. Point in the middle of the picture with the mouse and press the left mouse button. Drag the picture up to a location just below the heading, so that the title is above the image and the text to the right. You may need to move it back and forth a little bit before you succeed.

The result should look like the one shown in Figure 46.

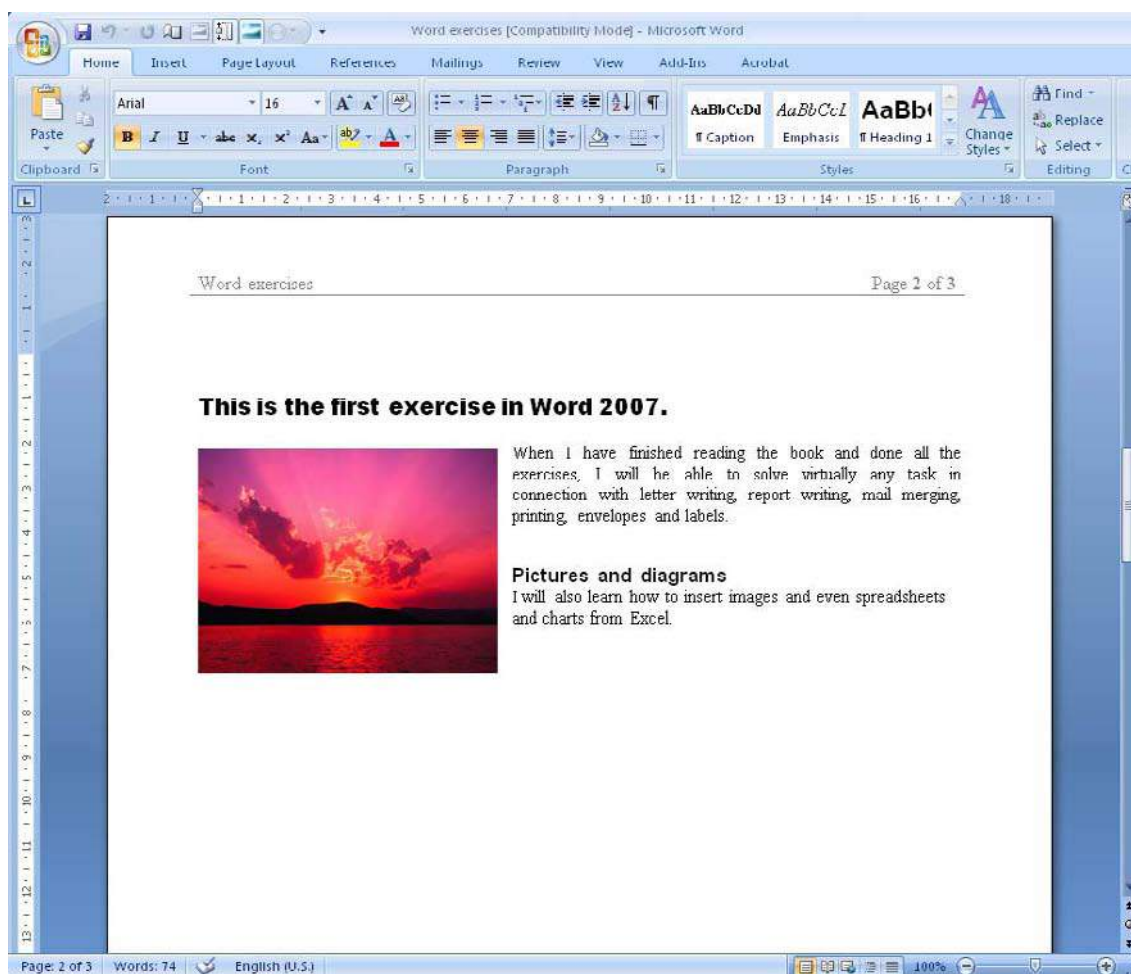


Figure 46: The final result of the exercise

It is not only the positioning of pictures that is done in this way. When you paste charts from Excel, SmartArt, and Clipart, the same rules apply.

#### 5.1.4 Captions

You can insert a caption under the picture describing what the picture shows. Almost all the illustrations in this book have an accompanying number and description. This is called "captions".

Chart numbers are automatic. The first caption will be called, for example, "Figure 1", the next "Figure 2" etc. But if you then insert a caption before the caption that says "Figure 1", Word will correct all the numbers throughout the document.

You should remember, therefore, that if you want to refer to a figure number in the text, do not just write "see Figure 2". You should also insert an automatic reference.

Like positioning of images, positioning of captions can give some unexpected results. Captions are simply independent text boxes that Word inserts under your images. If you move the picture somewhere else, the text box will not follow automatically.

In earlier versions of Word you could group the image and text box so they were always together. But in Word 2007 this is no longer possible if you use the new ".docx" file format. In documents filed in the old ".doc" format, you can still do the grouping. I cannot tell you why it has been changed in the new file format.

However, we will not let that deter us from using captions, and some advice is given along the way to make it easier for you.

If you want to insert captions under your pictures, I would advise against using the wrapping style "In Line With Text" below your pictures. You will discover that the caption is difficult to move around if you need to move the picture.

For this exercise I presume that you have already performed the exercise in the section Positioning and Text Wrapping. If the wrapping style is not set to something other than "In Line With text", you will not get the desired results.

1. Ensure the picture is selected.
2. Choose References Tab in the Ribbon.
3. Click on the Insert Caption button.



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advising and  
helping foremen  
solve problems

Real work  
International opportunities  
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Figure 47: The Insert Caption button

A small window will open, where you can enter a caption.



Figure 48: My caption.

4. Enter a caption similar to mine. The text does not have to be identical, but the settings in the window should be the same.
5. Click OK. (You are not finished yet).

Now you have a nice caption underneath the picture. There is a framework around the caption, which can be adjusted in size (see Figure 55). This is because Word has added a separate text box with the caption inside.



Figure 49: The caption has been inserted as a text box

6. Click with the mouse in the middle of the picture.
7. Press on the left mouse button, and keep it down while you drag the picture to the right side of the document.
8. Let go of the left mouse button.

Your result is probably the same as mine: The picture has been moved, but the text remains in the same place!

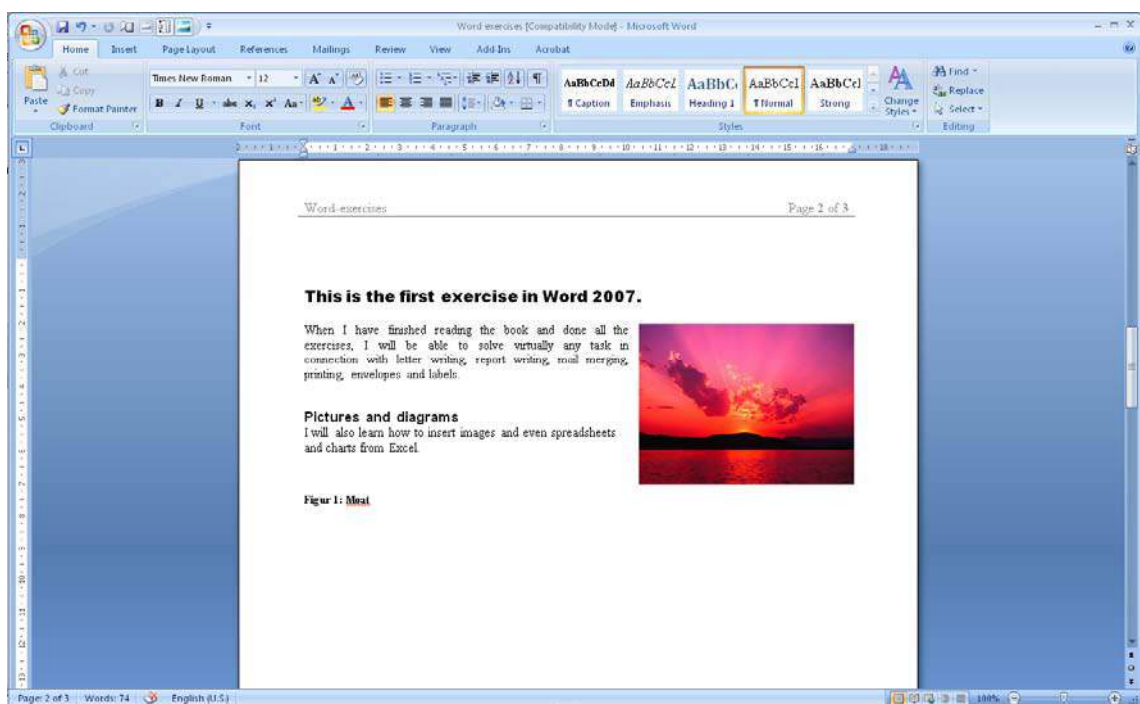


Figure 50: The caption did not follow the picture

That was not what we had in mind; we need to get that caption under control!

9. Click on the caption to make a frame appear.

- Click directly on the caption frame using the left mouse button, and keep the button down while dragging the text box to a position below the picture.

Now the caption is in place, and hopefully it will stay that way.

### 5.1.5 Cross-References to Characters, Pictures and Headlines

If you use captions with figure numbers, you probably also need to refer to them in your text. Word manages figure numbers automatically, so that they appear in the correct order throughout the document. This also means that if you delete or insert pictures and other figures in the middle of the document, the subsequent figure numbers will change.

That means you cannot just write "See Figure 14", because it might in fact be "Figure 16". Instead you should use cross-references.

Cross-references are automatic text fields that alter content if what they refer to is also changed.

Let us insert a reference to the picture in our document.

- Start a new line and type the following: "Here is a reference to", and don't do anything else, but make sure to put a space after "to".
- Choose the References Tab in the Ribbon.
- Click on the Cross-Reference button.

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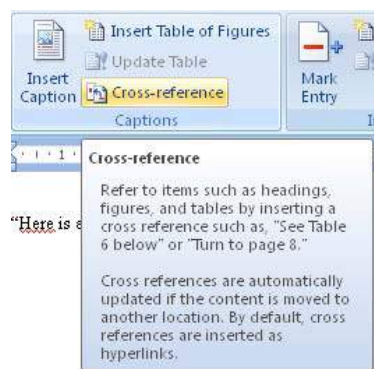


Figure 51: the Cross-Reference button

This opens a window where you must tell what you want to refer to. There are a lot of possibilities. Apart from being able to reference figures, you can also reference headings, charts and many other objects.

4. Choose Figure from the list under "Reference Type", then only name and number under "Insert Reference To".

Under "Insert Caption" you can only choose one caption, because you only have one caption in the document.

5. Click on the Insert button, then on the Close button.



Figure 52: This is where you define the cross-reference

Now you have an automatic reference. As with the automatic table of contents, it may be a good idea to "refresh" the references sometimes. This is because Word does not always update all automatic text fields, otherwise the program would become too heavy to work with.

If you want to update all references, select the entire document by holding down the CTRL key on your keyboard and pressing the A key. Then press the F9 key and select "Update All" in the box that appears.

Now everything has been updated and all references match.

If you have a figure number or anything else that you refer to, and which you choose to delete, the cross-reference will show an error. Word does not warn you that you have invalid cross-references. Instead of "Figure 1" it will say in fat, bold font:

**ERROR! Reference Source Not Found.**

It does not look pretty! If you like to use cross-references and must deliver an important document, it may be a good idea to check before you print it or send it to the recipients.

## 5.2 Clip Art

Clip Art are small drawings that you can use as illustrations in your document, but in Office 2007 there is no longer something called "Clip Art". Instead, look for "Multimedia Clip", where you can find drawings, animations and even sounds. It may seem silly to put an animation into a document, since you cannot make an animated print, and I do not know of any printer that can print a sound! But in fact many people are reading their Word documents directly from the screen, and in that case it makes sense.



Figure 53: Clip Art.



Figure 54: The Clip Art button

To insert Clip Art, choose the Insert Tab in the Ribbon and click the Clip Art button.

It opens a panel where you can search the many different Clip Art objects you can insert.

There are many useful things here. In Figure 53 I have searched for a "Smiley".

### 5.3 SmartArt

Like the other programs in Office 2007, Word has a new feature called "SmartArt". SmartArt can create professional-looking charts in no time. It is a really good idea and it works quite well even though this is the first version.

"I studied English for 16 years but...  
...I finally learned to speak it in just six lessons"  
Jane, Chinese architect

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Although the graphs in SmartArt may seem a little "engineer-like", you do not have to be an engineer to use them. There are many options that satisfy most needs, but it is incredibly simple to use. Whether you want to describe a process, an organization, illustrate some contexts or just make a renewed version of the supermarket Food Pyramid, this tool is very satisfactory and enjoyable to use.

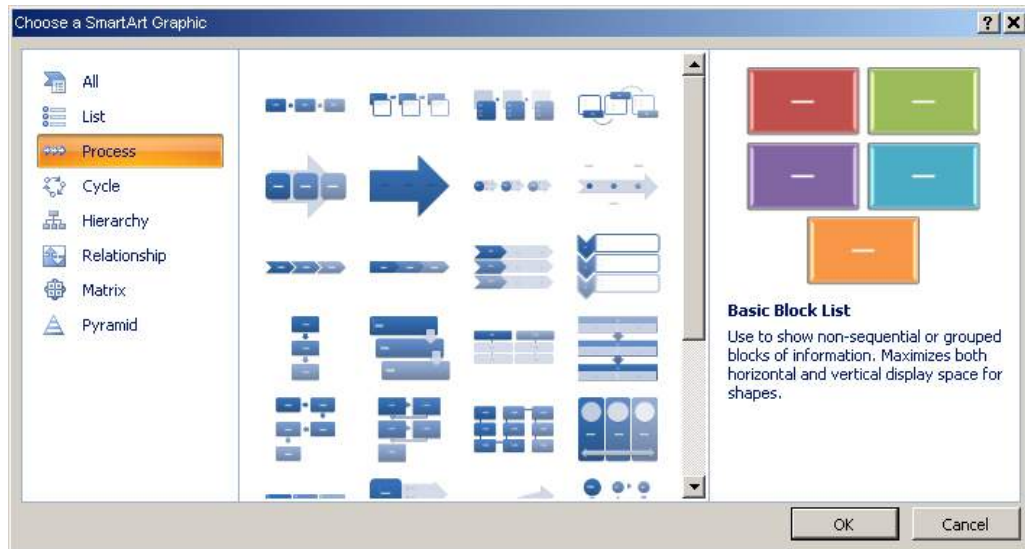


Figure 61

Let us plan a picnic and illustrate the plan with an educational chart.

1. Make sure you have started a new line. Choose Style button **Headline 2** on the Home Tab.
2. Type the following: "We are planning with SmartArt", and press the ENTER key.
3. In the Ribbon, choose the Insert Tab, then SmartArt.
4. Choose the same as I did in Figure 61. You must select Process, then Basic Angle Process. Then click OK.

Now a chart has been inserted in your document. The chart is selected, and you may have noticed that the Ribbon at the top has changed. In the Ribbon, you have the ability to change virtually everything regarding colours, fonts, etc. You can experiment with it yourself.

If you are being lazy and don't want to alter anything, I can tell you that the chart you have put in is also connected to Styles. This means that if you change the document's Style colours, this will also be reflected in the chart, unless you have added other colours to it. Handy!

1. At this point, the chart tells us nothing about the picnic, so click the first arrow in the chart and write "Arrival". Note the text size is adjusted automatically, so you can see everything. That's handy as well!
2. We would like to make a bonfire on the picnic, so click on the middle arrow and type "Finding firewood."
3. In the last arrow, write "Light Bonfire"

4. Three arrows are not enough to describe a whole picnic in detail, which means we need more arrows. Point at the arrow to the right and click once with the right mouse button and choose Add Figure, then Add Figure After. Now there should be four arrows.
5. Write "Leisure Time" in the last arrow.
6. I forgot that we also need something to eat. Click with the right mouse button on the "Leisure Time" arrow and choose Add Figure, then Add Figure Before. A new arrow has now been inserted between "Light Bonfire" and "Leisure Time".
7. Write "Lunch" in the new arrow.

Now we have an almost complete plan for our picnic. Let us hope somebody wants to come along!

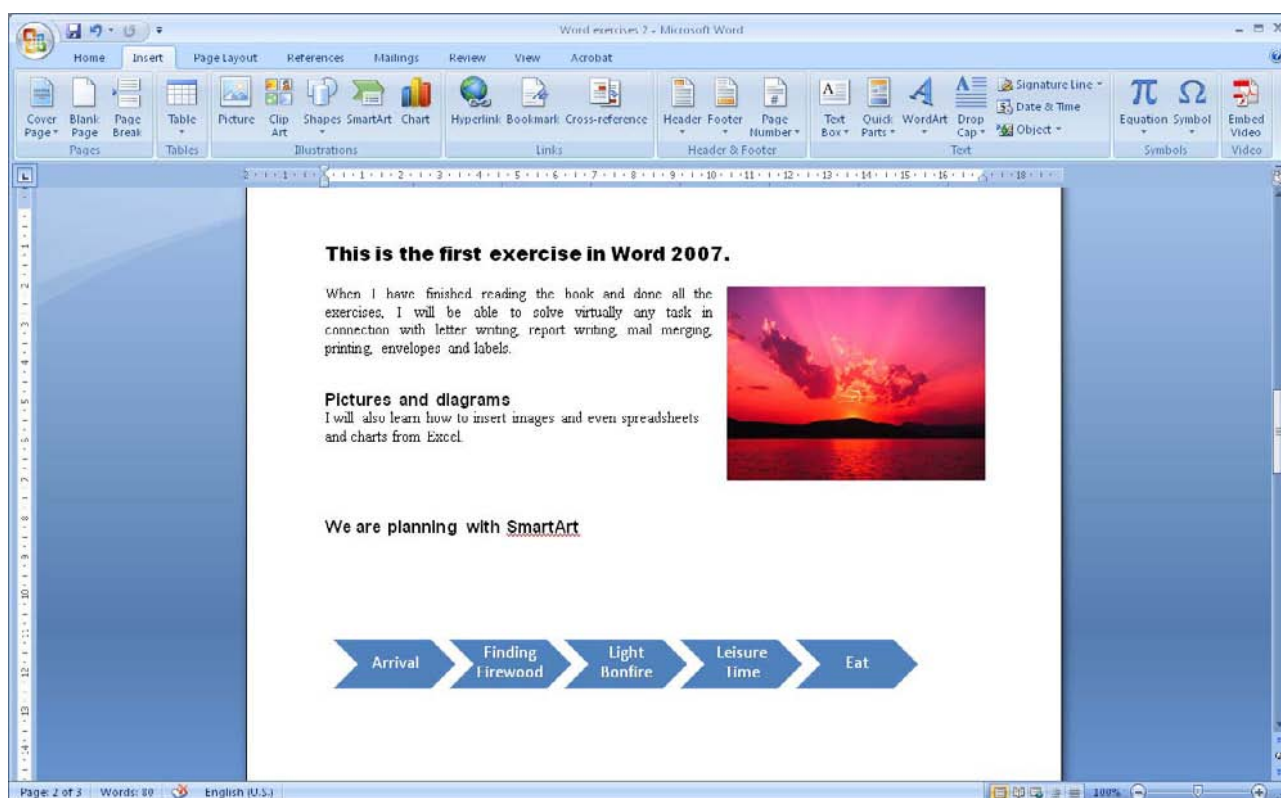


Figure 55: A clever SmartArt plan.

We will not go deeper into SmartArt here. I encourage you to experiment with the different types of charts and colours.

## 5.4 Excel Charts

The various Office programs work really well together, and you can easily create an Excel chart inside Word. You can even view a chart in Word that has been stored in an Excel project file. When there are changes in the data in the project file, the chart in your Word document will be updated automatically.

### 5.4.1 Create a New Excel Chart in Word

First we will try to create an Excel chart inside Word. This chart will be stored in the document itself and has no links to other files.



We will once more begin with our exercise document, where we want to insert a heading saying that this is about Excel charts.

1. Place the cursor underneath the SmartArt chart we created in the last exercise.
2. Select the Home Tab in the Ribbon.
3. Click the Style button Heading 2.
4. Type the following: “Here we create an Excel chart in Word”, and press ENTER on your keyboard.
5. Select the Insert Tab in the Ribbon.
6. Click on the Chart button to open a new window.



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Figur 56: The Chart button.

You can now choose between all the different chart types available in Excel.

7. We will keep it simple in this exercise. In the left side, select the category Columns, which is another word for "bar charts".
8. In the right side of the window, select the chart type at the top left, which is a traditional bar chart.

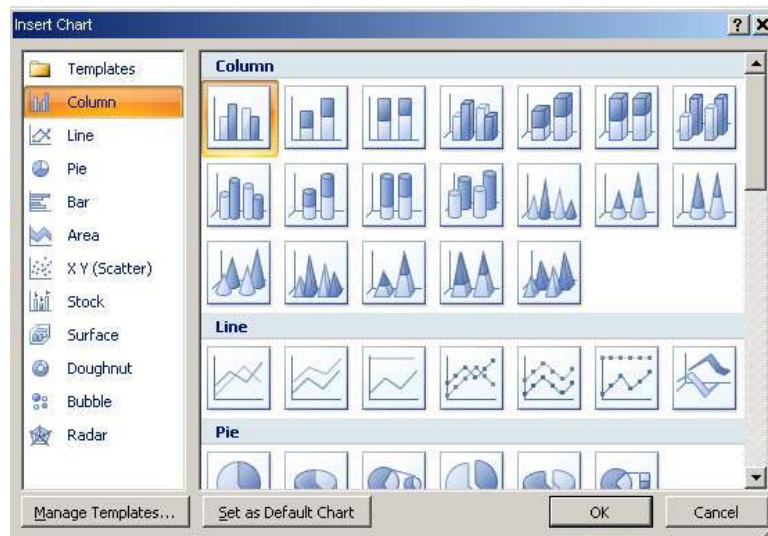


Figure 57: The "Insert Chart" Window, where you can choose chart type

9. Click OK to insert a neat chart in your document.

The screen is now divided in two. To the left is your Word document with the chart. To the right is a spreadsheet containing the data shown in the chart.

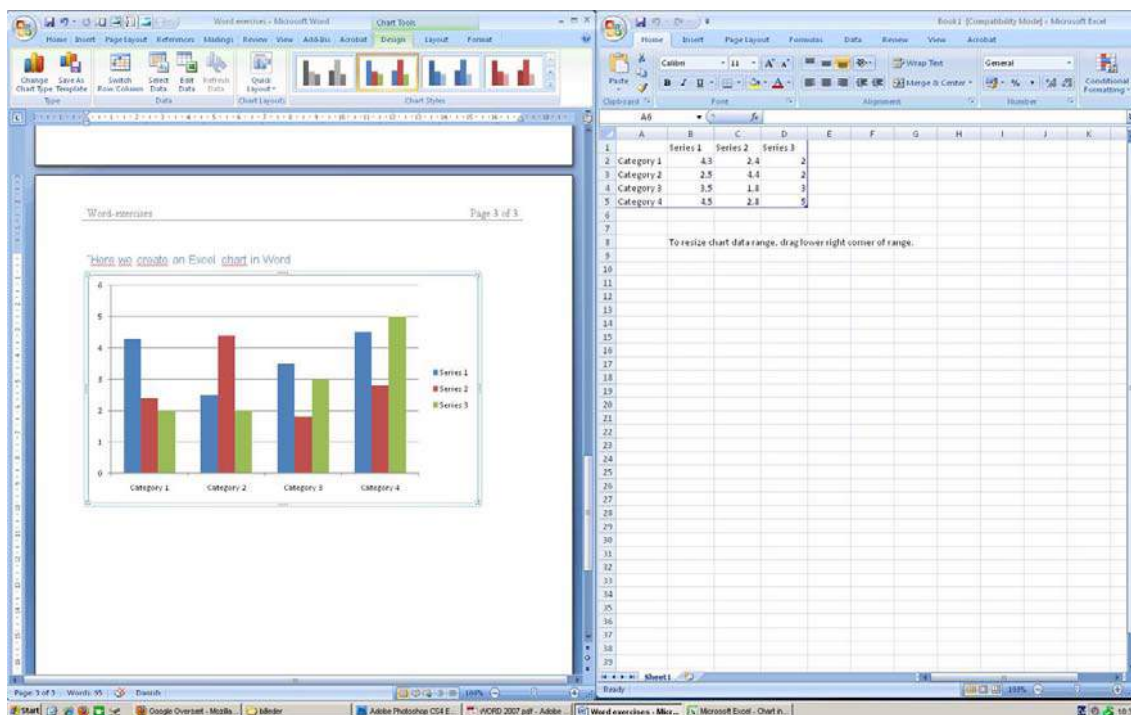


Figure 58: The screen is divided into a "document part" and a "spreadsheet part"

The spreadsheet contains some sample data to help you insert your own data in the right places. You can see that the chart data is surrounded by a thin blue frame. It shows exactly what data is included in the chart. You can resize the frame by clicking it in the lower right corner, hold the mouse button down and drag it to the size you want. In this way you can get as many series and categories as you like.

To close the spreadsheet, click on the cross at the top right of the screen. You can always return to the spreadsheet by clicking on the chart with the right mouse button and choose Edit Data in the menu that appears.

#### 5.4.2 Insert a Chart from an Excel Project File

I assume that you know how to create an Excel Chart. If you do not, you can skip this exercise, but I invite you to read my book on Excel, which is included in this series.

For this exercise I have used a spreadsheet from an exercise in the book on Excel.

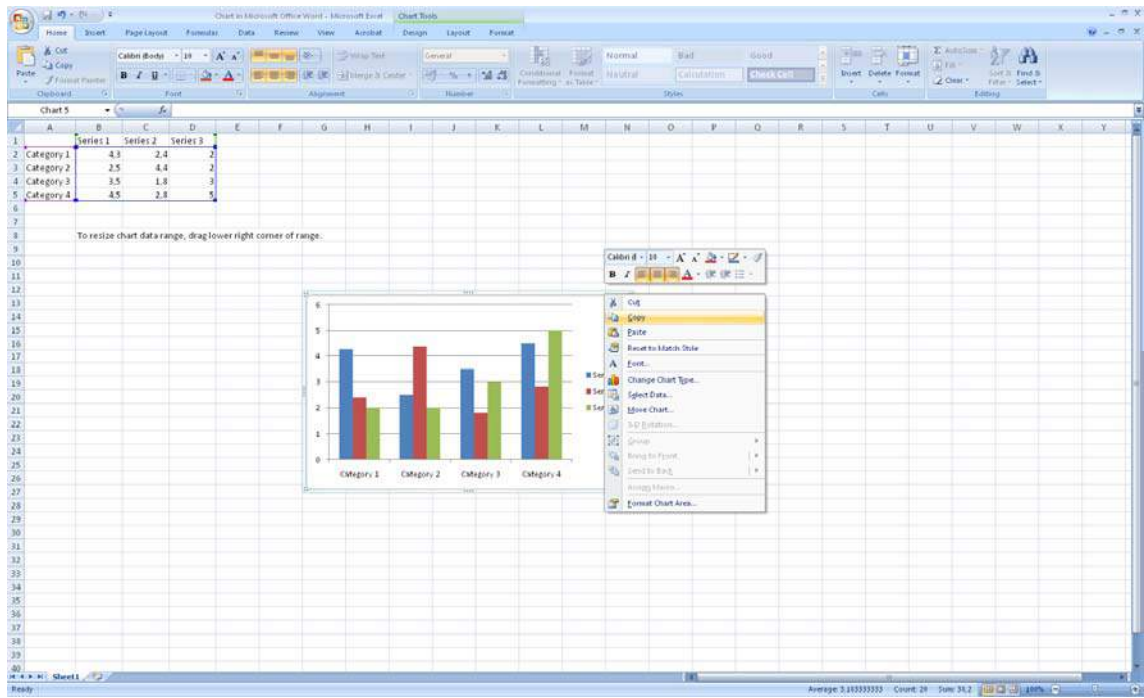


Figure 59: A spreadsheet with a chart. In this illustration, the chart has been right-clicked.

1. Make sure you have an Excel project file with a chart. Save the file.
2. Open your Excel project file with the chart.

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3. Click on the chart in the spreadsheet with the right mouse button.
4. Choose Copy from the menu that appears.
5. Switch to Word and select the Home Tab.
6. Click on the lower half of the Paste button to open a new "Paste Special" window.



Figure 60: You must click on the lower half of the Paste button.



Figure 61: Remember to select Insert Link and Excel Chart Object.

You have various options when you want to insert something in the "special" way. First you must choose whether you just want to add something, or if you want to insert a "link". If you insert a link it requires that you have a source document like we have in this exercise. If the object from the source document is amended it will also change in your Word document. If you simply choose to insert without the link, the object you insert will be embedded in Word document. It will not change if the source file changes.

When you insert a link, please be aware that the source file must remain in the same folder, and you should not rename it. If you rename or move the file, the link will be broken. If that happens Word will ask you about the new location.

You also have the opportunity to choose between different types of objects you can insert. What you choose depends on what kind of object you want to paste. In this case it is an Excel chart, and we can choose to paste it

as a chart object or as various types of graphics. If you insert the chart as an image, a bitmap (which is also a kind of image) or as a graphic the update via the link will not work.

7. Select options Paste Link and Microsoft Office Excel Chart Object, and click OK.

The chart is now inserted in your Word document. You cannot see that it is linked to an Excel spreadsheet, but if you double-click on it, the spreadsheet will open.

If you save and close the document, you will see the following next time you open it:

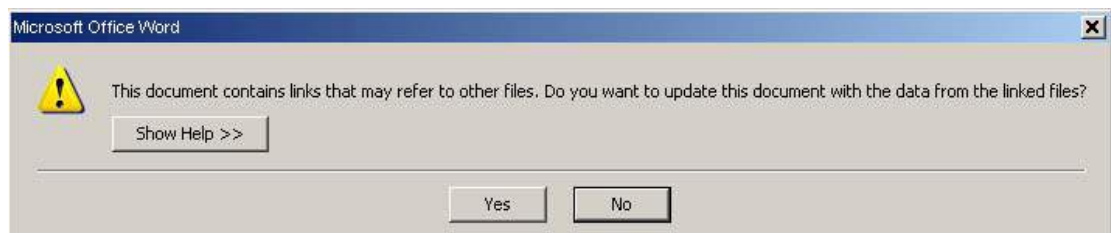


Figure 62: Word asks if you want to update the links.

Click Yes to ensure the new data is reflected in your Word document.

You may need to send your Word document to a recipient who does not have access to the source file. In that case the chart cannot be updated. Therefore, it might be a good idea to break the link before sending the document.

You can break the link by right-clicking the chart and selecting the menu item Linked Spreadsheet Object, then select Links. This opens a new window (see Figure 70):

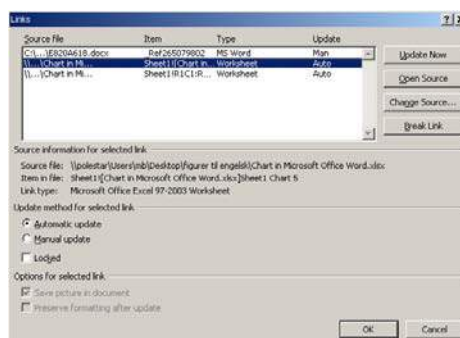


Figure 63: The "Links" Window.

Get an overview of links in your document. Select the chain you want to disconnect and click the Cancel Link button.

Subsequently, the chart will simply be a picture of your chart. You cannot make further changes in it, except for resizing, text wrap etc.