

## Screen Time: Tips for Healthy PC Use

### Essential Tips to Help You Stay Healthy While Working at Your Computer

#### This article shows you how to:

- Take care of your eyes when working at your PC
- Optimise your monitor settings for healthy use
- Make the best choice when buying a new monitor

We all told our children not to sit so close to the television screen, and now what do we do? We spend hours sitting in front of a PC screen! We know it's not a healthy thing to do, but it can't be avoided. However, what you can do is to pay attention to things like monitor position, lighting, and the clarity of your screen. In this article, I'll explain all the most important points to consider when buying, setting up and using your PC's screen.



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## Get the Lighting Right to Avoid Eye Strain

*Choose the best position for your monitor*

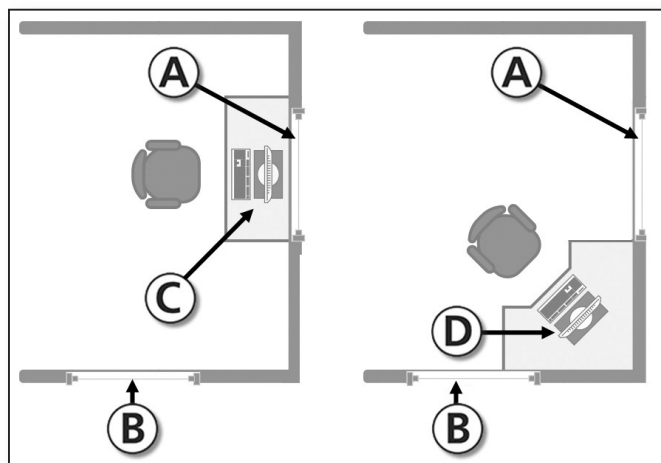
Whether you spend a lot of time in front of your PC or you only use it for short periods, it's important to position it in a suitable place. Not only will it be healthier in the long-term, but you'll find it more comfortable too.

### Avoid glare and reflections

If your eyes constantly have to adjust between a very bright environment and a comparatively dark PC screen, they'll quickly get tired. Compounding the problem, our eyes adapt more slowly to changes in light intensity as we get older.

*Natural – but indirect – sunlight*

By far the best kind of lighting for your working environment is natural sunlight, but you have to be careful where it's coming from. Consider the room pictured below, which has two windows, (A) and (B). Pleasant though it may be to place the desktop and monitor (C) in front of a window, giving yourself some scenery to look at between bouts of typing, the difference in brightness between that exterior view and your screen could quickly strain your eyes.



Since two walls of this room have windows, the other two walls are obviously opposite windows, and that's not good either: the sunlight reflected in the screen will be just as uncomfortable.

*Not opposite a window*

The best position for your screen (and thus for your desk and chair) is sideways-on to a window. If (A) were a solid wall rather than a window, then position (C) would be perfect for this.

*A window to one side is best*

For the room pictured above, the ideal solution is a table in the corner between the two windows (D). This achieves our two main objectives: not to be looking into the sunlight, but not to have it reflected from the screen.

### Ensure you have enough light

Natural light may be best, but when you're working in the evening or on a dark winter day, you're going to need something else.

*Ceiling lights cause reflections*

- **Lamps:** the first rule is to avoid using ceiling lights. They may light the whole room evenly, but they will tend to reflect in your screen. At the other extreme, don't opt for a spotlight-style lamp on your desk: this just creates one strong pool of light and leaves everywhere else dim.

Your main aim is to create an area of indirect light around your desk, and a good way to do this is to place a pair of ordinary table lamps or floor lamps either side of your desk or monitor.

*Low-level lamps are better*

- **Bulbs:** it's worth thinking about the lightbulbs you use in these lamps, too. Ideally, choose low-wattage bulbs that emulate natural light. LED lights are best avoided since they have a blue-white colour, and bluer light is more likely to cause eye strain than light from the 'warmer' yellow/red end of the spectrum. Thus, if you can't find suitable 'natural light' bulbs,

*Choose 'warmer' lightbulbs*

try to choose non-LED bulbs that advertise themselves as providing a 'warm' or 'soft' light.

## Protect Your Back and Neck with the Right Seating Position

*Set up your desk for comfort and health*

You've got the lighting sorted out, but it's not only your eyes that can suffer when you use a computer for long periods. Pay attention to the points below which all relate to the position of your monitor on your desk and your seating position. These are aimed at avoiding aches and pains in your neck and back as well as eye trouble.

### Set your monitor position for optimum comfort

If you use a desktop PC with a separate monitor, it's important to position it correctly:

*Sit arms-length from your screen*

- **Distance:** screen sizes have increased over recent years, with many of us now using 20–27 inch monitors. Accordingly, the advice about how far from your screen you should be sitting has also changed a little: you should aim to have the screen at least 50–70 cm from your eyes (roughly arms-length away).



If you find that sitting this distance away from your screen makes it difficult to see clearly, don't worry – there are settings you can change in Windows to make it easier, and we'll come on to those later in this article.

However, although it definitely is best not to be sitting too close to the screen, you should also avoid hunching over or leaning forward to get closer to it, as that will play havoc with your back and neck! If the later tips about changing your settings don't help enough, and you really must bring the screen closer, do so, but pay extra attention to the points below!

- **Height:** since looking downwards at something is always easier and more comfortable than looking upwards, try to have the very top of your screen on a level with your eyes or a couple of centimetres lower. The result should be that when you're looking at the very centre of the screen, you're looking downwards at an angle of about 35 degrees.
- **Angle:** tilt the top of the screen backwards so that, as you're looking downwards at the screen at a 35-degree angle, the screen is looking up at you at about the same angle – much the way you'd read a book. Along with general comfort, this also ensures you're seeing the clearest-possible picture, with no distortion and with even colours.

*Adjust your monitor's height*

*Tilt the screen upwards towards your face*

Most modern monitors come with height-adjustable, tiltable stands, but what can you do if yours can't be adjusted?

If you need to lower your monitor and you can't, perhaps you could find a practical way to raise your keyboard and mouse and your chair. You can tilt a monitor slightly by putting a wedge under the front of its stand. You can also find adjustable stands and arms to hold your monitor – have a look at the examples at [www.ergotron.com](http://www.ergotron.com).



- **Desk and chair height:** it's not always easy to achieve, but it's advisable to use a desk-and-chair combination that allows you sit with your knees bent at a 90-degree angle and with your forearms at 90 degrees to your desk. Needless to say, you should also keep your back straight and your shoulders back.

*Seating position*

### Take frequent breaks

As I've noted above, all the tips above are 'best practice' but they're not always easy! You'll quite likely have to

satisfy yourself with doing the best you can, since the only alternative might be to invest in a new desk, chair or monitor (or all three!) to observe these rules to the letter.

*Take breaks from the PC*

However, there's one important thing we can all do easily, and that's to take regular breaks from the computer. These breaks come in two parts:

*Take your eyes off the screen*

- **Exercise your eyes:** this is known as the 20-20-20 rule and it's designed to give your eyes a break from the screen. Every 20 minutes, look away from the screen and focus on something at least 20 feet away (out of a window perhaps) for at least 20 seconds.

*Get up and move around*

- **Stretch your legs:** get into the habit of taking a break from the computer for 5 minutes out of every hour. Have a walk around, stretch, and let your limbs, back and neck unwind themselves for a while.

### Keep the screen clean!

*Don't peer at a dusty screen!*

Regularly remove the dirt and dust from your screen. You can generally do this just by giving it a wipe over with an antistatic cloth.

For more stubborn marks, you can moisten a cloth or use screen-cleaning wipes. However, in this case, it's a good idea to turn off the monitor first and give the screen a few minutes to cool off before wiping it, or you could find that the moisture immediately dries on to the screen and makes things worse! Likewise, after wiping the screen, wait another few minutes before switching the monitor back on.



Of course, if you're using a notebook or tablet computer, you can't turn off the screen, so you'll have to do this when the computer has been shut down or put to sleep. For a stand-alone monitor connected to a desktop PC, switching off the monitor is absolutely fine: there's no risk to the work you were doing.

When you switch the monitor back on, you'll see everything just the way you left it.

### Give your eyes a helping hand

For many of us, working at the computer means constantly shifting our gaze between the screen, the keyboard and, perhaps, a paper document we're referring to as well. Without realising it, we could be doing this hundreds of times an hour, causing our eyes to constantly focus and refocus. For older folk, there's a natural loss in our ability to focus on near objects, so this frequent gaze-shifting can sometimes lead to eye strain, blurred vision and headaches.

Therefore, whether you normally wear glasses or not, it's worth considering the points below:

- **Are off-the-shelf reading glasses a good idea?** No, not for computer work. Although you can buy cheap reading glasses from supermarkets and chemists, they'll have the same lenses for both eyes, and it's rare for the vision in both eyes to have deteriorated by exactly the same amount. This means that these off-the-shelf glasses can't correctly compensate for both eyes, and at least one eye is likely to be strained more by these frequent shifts of attention. *Avoid off-the-shelf spectacles for PC work*
- **Try using computer glasses.** Just as there are spectacles made for reading, you can now get glasses specifically designed for computer use. These have single-vision lenses designed to focus on a computer screen at a typical arms-length distance away, but also to give a wider field of view than reading glasses. Have a chat with your optician to find out whether these would suit you. *You can order 'computer glasses'*
- **Avoid bifocals.** Traditional bifocals are effectively two lenses joined together – a lens for close work at the bottom and one for distance work at the top – *The split lenses make computer use difficult*

with a noticeable horizontal line between the two. For computer use, bifocals often result in your having to tilt your head at an uncomfortable angle, leading to an aching neck. You're also working at rather an 'in-between' distance: your screen is further from you than a book or newspaper would normally be. If you'd prefer to not have to switch to computer glasses when you're using your PC, consider using varifocals rather than bifocals: with these, the two prescriptions for each eye are smoothly graduated from the top to the bottom of the lens, with no dividing line.

*Anti-glare coatings and tints are helpful*

- **Useful features for spectacles.** For computer use, there are two worthwhile 'extras' for your lenses. One is an anti-glare/anti-reflective coating, which helps to reduce the effect of any reflections from your screen. The other is a light tint: this can also reduce glare, and it helps to block the blue light emitted from your screen (which, as I mentioned earlier, is associated with eye strain).

## Five Tips to Consider When Buying a New Monitor

*A good monitor costs much less*

Screen technology has moved on in leaps and bounds over the last decade. Today, under £100 buys you the quality of picture that used to cost about five times as much. The following five tips are worth keeping in mind when you're shopping around for a new monitor. You might also like to compare your current screen's features with the tips below to see how it measures up.

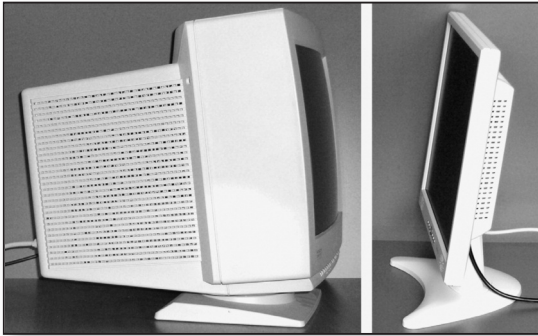
### Tip 1: use a flat screen

*Flat screens are flicker-free*

Are you still using one of the old-fashioned CRT monitors? It's much better for your eyes to replace it with a flat LCD



screen. A flat-panel display gives you a much more stable image, with no flicker, and text and images are far sharper with greater contrast. In addition, being completely flat, you'll get far fewer reflections from the screen. The ultra-slim design of these monitors also gives you a great deal more space on your desk and the flexibility to move the monitor further away from your face.



The one drawback to LCD screens – particularly the cheaper ones – is that the picture clarity drops sharply if you move to one side of the screen or look down at it from above.

### Tip 2: choose a suitable screen size

As a general rule, the larger your screen, the more you can see at once without having to scroll up and down or side to side. Currently, 20 and 21 inch screens are popular, but the ever-falling prices mean that 23, 24 and 27 inch screens are far more affordable. A larger screen is recommended for anyone who likes to work with several windows at once or who spends a lot of time editing digital photos. For most users, however, a screen size of 20 to 24 inches is sufficient.

*A large screen allows you to see more at once*

Remember that screen sizes are measured diagonally, from top-left corner to bottom-right. And, since modern displays have a widescreen layout, these



measurements tend to make a monitor sound much bigger than it really is. When you've lived with the old CRT monitors and televisions for years, a 24 inch screen might seem immense on paper, but when you see one for yourself, you'll realise it really isn't.

### Tip 3: choose your preferred aspect ratio

*Choose between  
16:9 and 16:10*

The old CRT monitors had an almost-square aspect ratio of 4:3, offering resolutions like 800x600 pixels and 1024x768 pixels. Since modern screens have a widescreen layout, the aspect ratios differ: you'll generally be choosing between 16:9 and 16:10.

It may sound as though there's little to choose between the two, but let's do a quick comparison:

- A monitor with an aspect ratio of 16:9 will probably have a resolution of 1920x1080 pixels.
- A monitor with an aspect ratio of 16:10 will probably have a resolution of 1920x1200 pixels.

*With 16:10, a taller  
screen and less  
scrolling*

From side to side, their widths are the same. However, the 16:10 ratio gives you an extra 120 pixels from top to bottom. If you spend much of your time using programs that need to be scrolled up and down (such as Microsoft Word, or any other text-editing program), those extra pixels are well worth having. Your screen is slightly less 'letterbox-shaped' and you won't have to scroll vertically as much.

### Tip 4: consider the pixel size

*On a larger  
screen, the pixels  
can be bigger*

It's not just the number of pixels that matters, but how large they are. As you can imagine, if you have 1920 pixels across the width of a 24 inch monitor, each pixel will be larger than it would be with 1920 of them squeezed across a 21 inch monitor.

*Find out the  
pixel size*

The smaller the pixels, the smaller everything will appear on your screen, and the more likely it becomes that you'll

need to sit closer to the screen. When you're shopping around for a new monitor, you should see its pixel size mentioned in its specifications, but if you don't, it's a good idea to ask.

As a rough guide, consider a pixel size of 0.26 mm upwards as good: everything on the screen should be clear and easily readable. A pixel size of 0.23 to 0.25 mm is middling – text should still be readable if your eyesight is good, but you might need your screen a little closer to you than you would with a larger pixel size. A pixel size of 0.22 mm or less is starting to make reading difficult from a reasonable distance unless your eyesight is excellent.

*Aim for 0.26 mm upwards*

#### **Tip 5: Matte or glossy screen?**

Whether you're buying a notebook computer or a monitor for your desktop PC, you'll find you have a choice between matte and glossy screens. A matte screen has an anti-glare coating.

As a good rule of thumb, a matte screen is a good choice, since it helps to prevent reflections, thus giving you a clearer view and preventing eye strain. In bright sunlight, a glossy display might actually be impossible to use, whereas you could continue working fairly comfortably with a matte screen. The catch is that the matte coating tends to make colours appear duller.

*A matte coating reduces reflections in a bright room*

Either way, it's something of a compromise, but if you know you'll often be using the screen in bright surroundings, a matte screen would be a good choice, whereas if you'll usually be in a more dimly-lit room, you might opt for a glossy display to take advantage of its richer colours.

*Glossy screens have richer colours*

## **Adjust Settings to Improve Screen Clarity**

There are two ways in which Windows can help to make your screen easier to use. One is to ensure you're

using the screen at its correct resolution, and the other is to make everything on the screen larger.

### Make sure your screen is set to the correct resolution

*Check and change the resolution*

Flat screens all have a 'native' resolution, the resolution for which they're designed and at which the picture looks best. If you use a lower resolution, either by mistake or in an attempt to make everything larger, the result will be a very blurry picture.

Follow these steps to check – and, if necessary, change – the resolution:

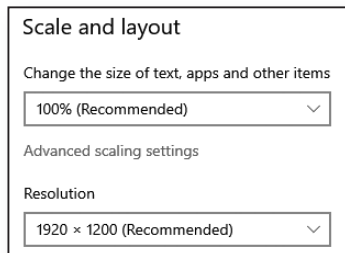


1. First, find out what the native resolution of your monitor is, such as 1280x1024 or 1920x1080. You can find this in your monitor's manual or by looking for the details of your make and model on the manufacturer's website.

*Open the screen resolution settings*

2. The next job is to find out what resolution your screen is currently set to. Right-click a blank space on the desktop and do this:

- **Windows 10:** choose **Display settings** from the context menu and scroll down to the **Scale and layout** heading.



- **Windows 8.1 and 7:** choose **Screen Resolution** on the context menu.
- **Windows Vista:** click on **Personalize** and in the window that opens, click **Display Settings**.

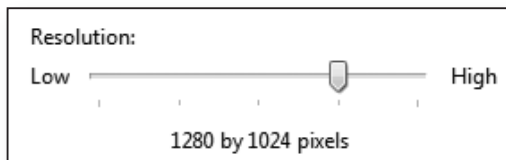
- **Windows XP:** click on **Properties** and in the dialog that opens, switch to the **Settings** tab.
3. Now you can check the current screen resolution and change it if necessary:

*Check and adjust the setting*

- **Windows 10, 8.1 and 7:** look alongside the word **Resolution** to see what resolution is currently set. If it's not the native resolution you determined earlier, open the drop-down list and either click on the correct resolution or (in Windows 8.1 or 7) drag the slider.



- **Windows Vista and XP:** just below the Resolution slider, you'll see what resolution is currently set. If it's not the native resolution you determined earlier, drag the slider to the correct resolution.



4. Click **OK** to confirm any change you made and close the window.

### Increase the size of everything on your screen

With modern, high-resolution screens, when set to their native resolution, you can find that everything on your screen is too small to see and read comfortably. In any version of Windows except Windows XP, you can increase the size of everything on your screen by 25%.

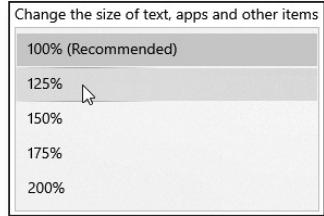
*You can make everything 25% larger*

If you'd like to do that, save any work you're doing and close any programs you're using, then follow the appropriate steps below for your version of Windows:



### Windows 10:

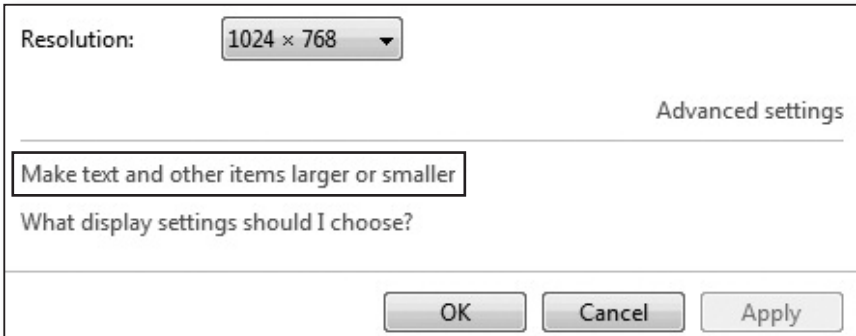
1. Right-click a blank space on your desktop and choose **Display settings** from the context menu.
2. Below the text that says 'Change the size of text, apps, and other items: 100% (Recommended)' you'll see a drop-down list. Open this list and choose **125%**. Everything you see on your screen is now 25% larger than it was before.



### Windows 8.1 and Windows 7:



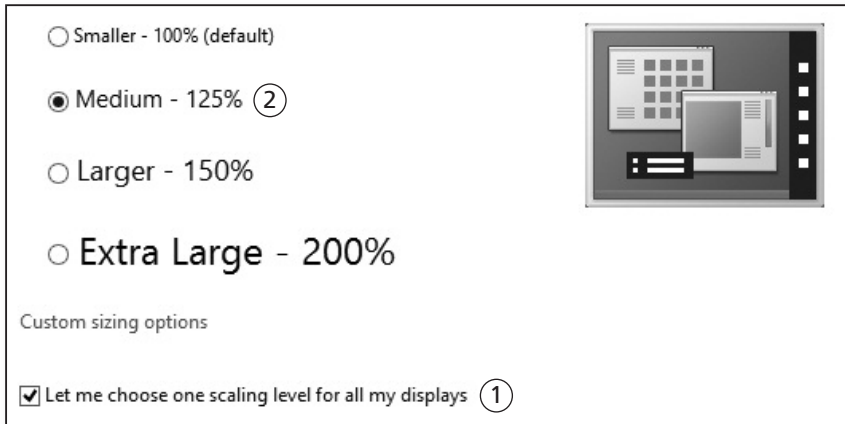
1. Right-click a blank space on your desktop and choose **Screen resolution** from the context menu.
2. Near the bottom of the window that appears, click the words **Make text and other items larger or smaller**.



3. **Windows 8.1 only:** if it isn't already ticked, tick the box beside **Let me choose one scaling level for all my displays** ①.

*Select the 125% option*

4. Further up in the window that opened, click the **Medium – 125%** option ②.



5. Click the **Apply** button at the bottom of the window. A dialog will appear telling you that you have to sign out (or log off) to apply these changes. Click **Sign out now** (in Windows 8.1) or **Log off now** (in Windows 7).

*Confirm and sign out*

6. In Windows 8.1, press the **Esc** key to move past the Lock screen. In either version of Windows, sign into Windows again in the usual way. When you arrive back at your desktop, you'll find that everything you see on your screen is now 25% larger than it was before.

*Sign in to Windows again*

### Windows Vista:

1. Right-click a blank space on your desktop and choose **Personalize** from the context menu.
2. In the top-left of the window that opens, click on **Adjust font size (DPI)**.
3. In the User Account Control security prompt that appears, click on **Continue**.
4. In the DPI Scaling dialog that opens, click the option **Larger scale (120 DPI) – make text more readable**.



*Select the 'Large scale' option*

- Default scale (96 DPI) - fit more information
- Larger scale (120 DPI) - make text more readable

*Restart your computer*

5. Click **OK**, and you'll see a note that you have to restart your PC for this change to take effect. Click on **Restart now**.
6. Once your computer has restarted and you've arrived back at your desktop, you'll find that everything you see on your screen is now 25% larger than it was before.

#### **All Windows versions:**

*Not keen? You can switch back again*

If you decide you're not keen on this 25% increase in size, it's equally easy to change it back. Just repeat the same steps, this time choosing the **100%** option in Windows 10, 8.1 and 7, or the **Default scale (96 DPI)** option in Windows Vista.



Your version of Windows may offer a greater increase in size than 25%, but it's never a good idea to choose it. Many programs aren't designed to have their size increased this much, and you'll often find that text, buttons and other items disappear off the side or bottom of a window, making the program nigh-on impossible to use. Regard this 25% increase as the practical maximum.