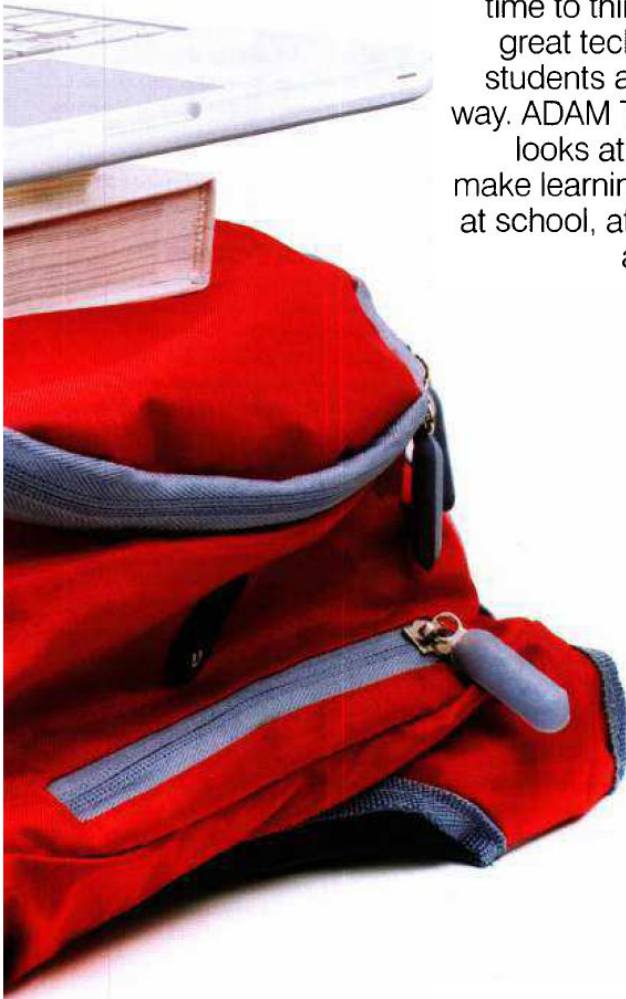




# COOL FOR SCHOOL

The new school year is upon us and it's time to think about great tech to help students along the way. ADAM TURNER looks at ideas to make learning easier at school, at uni and at home.



**W**hether you're at school or doing a masters degree, technology is revolutionising the way we learn - both in and out of the classroom. Packing the modern school bag requires more than a pencil case and a Vegemite sandwich.

## COMPUTERS

The first thing you'll want to think about is a computer. If the school, university or TAFE offers a deal on notebooks or desktops it's certainly worth investigating, as you'll probably get a good deal on the price along with a better service and warranty agreement than you would shopping alone.

Make sure you take the service and warranty agreement into account when comparing the school's notebook offerings to what you can find elsewhere.

If you're given a choice of models, focus more on portability and durability rather than grunt. Students shouldn't be breaking their backs hauling around a heavy computer along with all their books.

Notebooks with a 13in display tend to strike the right balance between portability and usability - the 13in MacBook is 2.13kg, while the 13in MacBook Pro is a bit lighter at 2.04kg. Be wary of anything that weighs much more than 2kg - the 15in MacBook Pro is 2.54kg and the 17in is 2.99kg, so these models should probably be avoided.

Of course, the new MacBook Airls are even lighter - the 11in model is a mere 1.06kg, and the 13in is just 1.32kg.

In terms of performance, these super-slim Macs should suffice for day-to-day activities, unless you're considering video editing or other high-end tasks. In this case, look for a beefy graphics card and lots of RAM - as well as a powerful processor.

## BAGS

If you've seen what school kids do with their bags, you'll know that durability is important. Invest in a padded backpack designed for carrying notebooks, preferably something that looks like a normal backpack and doesn't advertise the fact it contains a computer.

There are nice new models from Belkin ([www.belkin.com/au](http://www.belkin.com/au)), Crumpler ([www.crumpler.com/au](http://www.crumpler.com/au)) and STM ([www.stmbags.com.au](http://www.stmbags.com.au)) – such as the STM Revolution laptop backpack which we offer as the Query of the Month prize (See Page 64).

## HOME USE

When it comes to setting up a home study area for children, it's best to keep your computer in the living area rather than

A good office chair supports your back, taking the strain off your lower back and shoulders.

Using a mouse is also more wrist-friendly than a track pad or pointer. A separate keyboard is better for your wrists than using the built-in keyboard on a notebook. The keyboard should be in a "negative tilt" position – slightly away from you – to keep your wrists straight while typing. Ergonomic keyboards split the keys into two segments and are considered by some to be better for your wrists.

Finally, low light can cause eyestrain but aim for diffused lighting rather than a bright overhead light. Replace flickering lights and avoid unshielded lights or glare (including on the monitor) in your field of vision.



## While wireless is handy for moving around the house, you'll get better network performance using Ethernet cables. If possible, run an Ethernet cable from your modem to your workstation.

the bedroom – especially when it comes to internet access. If students will be using a notebook at home, it's important to set up an ergonomic workstation rather than always using the kitchen table or, worse, slouching on the couch.

When it comes to chairs, it's important to think about your back. Look for a height-adjustable desk chair, preferably with a gas lift and a five-star base for stability. You should be able to adjust the height, angle and depth of the back rest, while the seat should have a curved front edge to minimise pressure on the thighs. It should be covered by material that breathes.

## MONITORS

Looking down at a notebook for long periods is bad for your neck, so connect it to an external monitor at eye level. The value-for-money sweet spot for LCD monitors is around 21in to 24in widescreen, above which you're paying a premium on those extra inches.

Even a 20in widescreen monitor should be more than enough for your average student, but make sure you measure your workspace to see what will fit.

When choosing a widescreen monitor you could get by with 1280 x 800 or 1680 x 1050 resolution although it's worth spending a little extra for 1920 x 1200, especially if you want to hook up AV gear as well.

Most monitors should feature both VGA and DVI monitor connectors, or perhaps Apple's Mini DisplayPort standard.

It's also worth looking for AV connectors such as composite, component and HDCP-compatible HDMI if you want the workspace to double as an entertainment space hooked up to a games console or digital set-top box. If you're thinking about entertainment as well as study, consider the improved picture quality of an IPS-based LCD monitor rather than a cheaper TN-based LCD monitor.



For a great monitor for work and play, take a look at the 24in Ultrasharp U2410 from Dell ([www.dell.com.au](http://www.dell.com.au)). If you're on a budget and don't care about HDMI and component video inputs, consider Dell's 23in Ultrasharp U2311H or 21.5in Ultrasharp U2211H.

Other features to look for include built-in speakers, an adjustable stand and a built-in USB hub for connecting desktop peripherals.

## SPEAKER SYSTEMS

If you're not satisfied with your Mac's or your monitor's built-in speakers, you could upgrade to a desktop speaker system, such as the basic Logitech LS21 speaker set ([www.logitech.com/en-au](http://www.logitech.com/en-au)) or perhaps a high-end surround sound speaker set such as the Logitech Z506 or Z-5500 (above).

## NETWORKING

Now your resident student is starting to accumulate a few network-enabled devices, it's time to start thinking about your home network. If you're still on dial-up, do yourself a favour and make the leap to broadband. To see what's available, visit Whirlpool's Broadband Choice site ([bc.whirlpool.net.au](http://bc.whirlpool.net.au)).

There are plenty of great deals out there for less than \$50 per month but make sure you read the fine print, especially on the dirt-cheap deals. Beware of internet service providers (ISPs) which count your uploads towards your monthly usage limit. Also watch out for ISPs which inflict hefty excess usage fees if you go over your monthly limit.

Once you've got broadband access, you need to decide how you're going to share it with the devices around your home.

If you pay a little extra, your ISP should be able to supply you with a wireless modem/router, which means it has a built-in wireless base station as well as several Ethernet ports. Now all your wireless gadgets, such as notebooks, tablets, smartphones, games consoles and other devices, can connect to the internet. These wireless devices are also able to talk to all the devices connected to your modem/router via Ethernet cables.

If you're not happy with your ISP's offerings, you can just get a basic modem and connect your own wireless router. It's worth considering a dual-band wireless base station, such as Apple's Airport Extreme, running a faster 802.11n Wi-Fi network for compatible gear, along with a slower 802.11g network for older devices. Also look for fast Gigabit Ethernet rather than 10/100. You'll

find 802.11n networks running at 5GHz are less susceptible to interference from other devices than 2.4GHz networks.

While wireless is handy for moving around the house, you'll find you get better network performance using Ethernet cables. If possible, run an Ethernet cable from your modem to your workstation.

You don't need to run a separate Ethernet cable for each device, just run one cable and use a Gigabit switch from the likes of Netgear ([www.netgear.com.au](http://www.netgear.com.au)) or Belkin to share that access between the Ethernet-enabled devices on your desk. If you can't run an Ethernet cable and you find wireless isn't up to the task, consider using Belkin's Surf Powerline HD Dual Pack (left) to run an Ethernet link back to your modem via your home's electrical wiring.





While printers are cheap, the real killer is the running costs. If you're considering an inkjet device, look for something with individual ink cartridges so you don't need to replace them all when just one colour runs low.

If you'll be churning out lots of text-based assignments, it might be worth investing in a basic monochrome laser printer as well – which is a lot cheaper to run than an inkjet printer.

Colour laser printing has also come down in price, so it's worth looking at MFDs like Brother's MFC-9120CN ([www.brother.com.au](http://www.brother.com.au)) or the new Fuji Xerox DocuPrint CM205b ([www.fujixerox.com.au](http://www.fujixerox.com.au)), which has a recommended retail price of \$399.

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### BACKUPS

Before you go any further, it's time to think about backups. There are two kinds of hard drives – dead ones, and those that are going to die. As such, it's important to keep multiple copies of files. Backing up to a USB drive or stick is a good step, but it's awkward with a notebook that doesn't stay in one spot.

This is where network attached storage (NAS) can come in handy – it's basically a hard drive that's accessible from any computer connected to your home network.

If you're looking for a basic NAS drive consider Western Digital's My Book Live ([store.westerndigital.com](http://store.westerndigital.com)) or D-Link's DNS-313 Sharecentre ([www.dlink.com.au](http://www.dlink.com.au)). If you're after a more advanced unit with the extra protection of redundant drives, look at a Netgear ReadyNAS (right, [www.netgear.com.au](http://www.netgear.com.au)) or Seagate's BlackArmor ([www.seagate.com](http://www.seagate.com)). Avoid Apple's Time Capsule if you're not just using Macs.

You'll need software to automatically handle the backup process. Mac software might be supplied with the NAS, but if not consider ChronoSync ([www.econtechologies.com](http://www.econtechologies.com)) and Synk ([decimus.net](http://decimus.net)).

While backing up to a NAS protects your files against hard-drive failure on your main computer, you're still in trouble in the event of fire or theft. This means you should keep an offsite copy of your important files.

A simple option is to burn them to disc and store them elsewhere. A more reliable option is to use an online backup service, such as Jungle Disk ([www.jungledisk.com](http://www.jungledisk.com)), Mozy ([mozy.com](http://mozy.com)) and DropBox ([www.dropbox.com](http://www.dropbox.com)), which automatically copies files to the internet (remember to take care if your uploads count towards your data limit).

While file-level backup protects your precious documents, you should also consider disk-imaging software which takes a snapshot of your entire operating system and saves it to a second hard drive, external drive or NAS. Think of it as a time machine for your computer, letting you easily roll back your computer to how it was yesterday or last week.

Of course Macs include the built-in Time Machine backup feature, which supports both file- and disk-level backups, but another option is SuperDuper! ([www.shirt-pocket.com](http://www.shirt-pocket.com)).

### MULTI-FUNCTION DEVICES

A multi-function device (MFD) – something which lets you print, scan, copy and perhaps even fax – is well worth buying. If you intend to do lots of copying or scanning, look for an MFD with a built-in automatic document feeder.

If you've got a few Macs it's worth looking for an MFD with built-in Ethernet and/or Wi-Fi, such as the PIXMA MX870 (above) from Canon ([www.canon.com.au](http://www.canon.com.au)).

### GADGETS

There are so many useful gadgets to slip into your bag. A little USB stick is handy for swapping files with people or making quick backups. They're so cheap that you can pick up a few gigabytes for just a few dollars.

If you want to always keep some USB storage on your person, consider a USB keychain such as an Australian Flashkey ([flashkey.com.au](http://flashkey.com.au)). Another option is the credit card-sized Freecom USB card ([www.freecom.com](http://www.freecom.com)), which fits nicely in a wallet and features a pop-out USB stick.

A spare set of charge and sync cables for all your portable gadgets is also useful to keep in your bag, particularly with retractable cables to reduce tangling. A tiny four-port



USB hub such as the Targus Micro Travel USB 2.0 four-port hub with swivel connector ([www.targus.com/au](http://www.targus.com/au)) can come in handy, as can a multi-format USB memory card reader.

A portable recharge battery can also be a lifesaver, such as Powertraveller's range of Powermonkey chargers ([www.powertraveller.com.au](http://www.powertraveller.com.au)) which come with a range of adaptors for charging multiple devices.

## **MOBILE BROADBAND**

A USB mobile broadband stick is handy for connecting to the internet while you're away from home, plus it's more secure than using an open public Wi-Fi hotspot. As mobile data gets cheaper, you may find it easier to just tether your iPhone to your Mac, via USB or Bluetooth, and use the phone as a mobile broadband modem.

An alternative to a USB stick or phone tethering is using a portable Wi-Fi hotspot to generate your own private wireless network – handy if you've got a few wireless gadgets such as a Mac, iPhone and iPad.

Most of the major mobile broadband suppliers offer a Wi-Fi hotspot on a data plan, or you can buy one outright, such as an Internode MiFi ([www.internode.on.net](http://www.internode.on.net)), a Vodafone Pocket WiFi ([www.vodafone.com.au](http://www.vodafone.com.au)) or a Netcomm MyZone ([www.netcomm.com.au](http://www.netcomm.com.au)).

## **RECORDING AND NOTE-TAKING**

An audio recorder for recording lectures is a very useful gadget to keep at hand. While there are plenty of tape-based recorders around, a digital recorder is more practical

when it comes to archiving recordings.

If you're looking to record a group discussion or perhaps even a rehearsal, consider using something more advanced such as an Edirol R-09 ([www.edirol.com.au](http://www.edirol.com.au)) or Zoom H2 ([www.zoom.co.jp/english](http://www.zoom.co.jp/english)).

The traditional notepad has also been usurped by the rise of smart pens, designed to digitise your hand-written notes so they're easy to search. Pegasus' Tablet Mobile NoteTaker for Mac Users ([www.pegatech.com](http://www.pegatech.com)) clips to the top of your notepad to capture every pen stroke you make (using the supplied pen). You can then transfer the image to a Mac and even convert the handwriting to text.

Livescribe's Smartpens ([www.livescribe.com/en-au](http://www.livescribe.com/en-au)) are even more advanced. See Page 74 for a review of the Echo model. 