ICT Health & Safety Policy

Comfort

Users should be comfortably positioned, with easy access to all equipment. While sitting, users must be able to adjust their position in relation to the equipment as appropriate. Users should change posture frequently and take frequent ten minute breaks away from the computer to stretch their limbs.

Desks and workstations

There should be enough space around a workstation for paper, books and other materials, e.g. camera, ipad etc. There should also be space for more than one pupil at a time, or for the teacher to gain access. It is important to keep gangways and emergency exits clear. Good ICT desk design should be aware of cable management.

Seating

When using ICT, pupils will need to sit at the recommended height (with the eye level at the top of the screen). To achieve the correct posture, the lower arms should be roughly horizontal when working, knees should fit comfortably under the desk with the thighs roughly horizontal, and the back should be kept straight. Ideally the height of the chair should be adjustable if pupils from different year groups use the same chairs. Chairs with backs are generally preferable to stools. Pupils should be encouraged to change posture frequently and take short breaks away from the computer to stretch.

Monitors

Monitors should tilt and swivel to suit the requirements of individual users. The top of the screen should be roughly at eye level.

Screens should be positioned to reduce reflection and glare from lights and windows, using blinds where necessary, and should be adjustable for brightness and contrast as the lighting changes throughout the day. Clean screens give better visibility and reduce glare. They should therefore be cleaned regularly using appropriate cleaning materials.

Keyboards

Users should have the option of using the keyboard flat or tilted. It is important to develop a good keyboard technique. Do not bend hands up at the wrist when typing. Keep a soft touch on the keys and do not over-stretch your fingers. Repetitive Strain Injury (RSI - upper limb disorders including pains in the neck, arms, elbows, wrists, hands and fingers) is a painful condition, which has the potential to cause irreversible problems. For children with years of typing ahead of them, using the keyboard with index fingers only is highly risky. RSI is easier to prevent than cure.

Data Projectors/Interactive Whiteboards

When using a data projector, make sure that children are supervised at all times during the projector's operation. You should never stare directly into the beam of the projector and, when entering the beam, you should not look towards the audience or class for more than a few seconds. Give careful consideration to factors such as positioning and, if possible, keep your back to the beam at all times.

A maximum of 1500 ANSI lumens is generally considered adequate for projection equipment in most classroom environments, except in the most extreme ambient lighting conditions. In bright daylight it is advisable to use window blinds rather than increase the brightness of the projector.

When purchasing or using projectors for purposes where a person may have to stand in front of the beam, consider a method of brightness reduction, such as a neutral density filter or brightness adjustment facility. These modifications can be removed or adjusted to enable the projector to be used to its full image quality potential for other purposes such as cinema projections, when no one will stand in front of the beam.

Software

Defective CD-ROMs or DVDs used in high-speed drives can shatter and allow pieces of disk to escape from the drive. To check that disks are in perfect condition, hold them up to the light and examine them for cracks, scratches or defects near the inner rim.

Noise

Almost all ICT equipment emits background noise if the power is switched on, even when an item is not in use, and many software packages feature sound as part of their operation. Other ICT users in the classroom, especially those working in groups, can be noisy or distracting. Use of headphones may help to reduce distractions and aid concentration.

In-ear headphones should only be for personal use (for hygiene reasons).

A child's ears are more sensitive than those of an adult and it is advisable that volume controls are turned down, before use by pupils.

Where printers are located in teaching areas, try to conduct large print runs outside lesson times.

Heat and Light

The ideal temperature of an ICT suite is between 18 and 24 degrees Celsius, with humidity between 40 per cent and 60 per cent. Almost all ICT equipment gives off heat, which can build up during the day and become quite oppressive for users, as well as detrimental to the equipment. Ensure that the room is well ventilated by using air conditioning if available, opening doors and windows and turning down heat. Ideally, windows should be fitted with blinds to avoid glare for screen users

Personal Safety

When using equipment such as photocopiers, remember that fast-moving parts can trap clothing, jewellery and hair. Photocopiers should be located in well-ventilated areas, and pupils should not be allowed to handle toners and inks, or to try to repair faults.

Electrical Safety

Under the Electricity at Work Regulations 1989, all electrical equipment should be maintained regularly. Always leave technical repairs to the experts.

Keep carbon dioxide fire extinguishers near any ICT equipment.

The location of electrical equipment depends on the length of cables and the availability of sockets for telephones, TV aerials and power. It is essential that the location of the equipment does not increase the risk of danger to equipment or users. Particular issues to be aware of are as follows:-

Cover and secure trailing power cables.

Replace frayed leads or damaged plugs.

Do not overload circuits, particularly when using long extension leads, as power surging can occur if too many computers are connected to a circuit.

Avoid coiled cables, as the heat generated within them could be sufficient to start a fire.

Be aware of accidental damage, in particular any cuts to power cable insulation, and also damage from dust, spilt liquid.

Ensure that the correct fuse rating is fitted.

Ensure that keyboard and mouse connecting cables do not hang over the front of the computer workstation. Where the workstations are accessible from the rear, as in the case of trolleys or teacher desks, ensure that trailing loops of cable are tidied to allow easy access to equipment for maintenance and to prevent equipment from being dragged accidentally from the workstation by students.

The school should ensure that there is a system in place for regular visual checks of plugs, leads and other electrical equipment.

Mobile Equipment

ICT equipment is often heavy or bulky. You must assess the risk of lifting heavy or awkward equipment and use trolleys where appropriate. It is better to push a trolley than to pull it. When using mobile equipment such as televisions, projectors and screens around the school, ensure that the equipment is anchored firmly when in use, and that trailing power cables are covered and secured.

Hazardous Substances

The 'Control of Substances Hazardous to Health Regulations' covers this area. Risk assessment is necessary when using toners, printing inks and cleaning materials. Fluids used for cleaning and in some reprographic processes are flammable. They should not be used in confined spaces and adequate ventilation should be maintained.

Wi-fi Health Issues

There is no consistent evidence to date that exposure to radio signals from Wi-Fi adversely affects the health of the general population. The signals are very low power, typically 0.1 watt (100 milliwatts) in both the computer and the router (access point), and the results so far show exposures are well within the internationally accepted guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP). Based on current knowledge and experience, radio frequency (RF) exposures from Wi-Fi are likely to be lower than those from mobile phones. Also, the frequencies used in Wi-Fi are broadly the same as those from other RF applications such as FM radio, TV and mobile phones.

Key Points

There is no consistent evidence to date that exposure to RF signals from Wi-Fi and WLANs adversely affect the health of the general population

The signals from Wi-Fi are very low power, typically 0.1 watt (100 milliwatts), in both the computer and the mast (or router) and resulting exposures should be well within internationally accepted guidelines.

The frequencies used are broadly the same as those from other RF applications.

Based on current knowledge, RF exposures from Wi-Fi are likely to be lower than those from mobile phones.

On the basis of current scientific information, exposures from Wi-Fi equipment satisfy international guidelines. There is no consistent evidence of health effects from RF exposures below guideline levels and no reason why schools and others should not user Wi-Fi equipment.

Projector Health and Safety Issues

It is important that all users are aware of the health and safety implications of using projection equipment in the classroom, particularly if children might stand in front of the beam to give presentations. All projectors have the potential to cause eye injury; so some simple guidelines should be followed:

No one should stare directly into the beam of the projector.

When entering the beam, users should not look towards the audience for more than a few seconds.

Users should try where possible to keep their backs to the projector beam when standing in it.

The use of a stick or laser pointer is recommended to avoid the need for the user to enter the beam.

Children should be supervised at all times when a projector is being used and in particular when they are asked to point out something on the screen.

Control light in the room by using blinds which diffuse rather than remove ambient lighting thus reducing the need to increase the beam intensity.

Retaining some ambient light enables eye to eye contact to be maintained and there is some evidence that pupils work more ably when exposed to natural light. Restore natural daylight promptly on conclusion of interactive whiteboard sessions.

When necessary, use the brightness reduction facility on the projection when a presenter is standing in front of the projector.

A maximum of 1500 ANSI lumens should be more than adequate for most classroom environments.

Projectors should be installed as far forward as possible to avoid the projector beam entering the user's field of vision. This is best achieved by ceiling-mounting, rather than floor— or table-mounting, the projector. There are also some all in one interactive whiteboards emerging which remove any potential danger of getting the light beam in the eye of the user and almost eliminates the area of shadow from the user.

Board positioning should be determined following an appropriate risk assessment.

Electrical standards and regulations apply in relation to all interactive whiteboards aspects.

Electrical Installation

All electrical installations undertaken, including whiteboards, should follow all local authority guidelines. In most cases these should follow the BS7671 and NICEIC standards. It is important to note that projector power installations that are classed as temporary are subject to PAT testing (Portable Appliance Testing) under the Electricity at Work Regulations 1989.

Information relating to the safe operation and use of projection equipment must be provided by the suppliers with all installations, especially in relation to beam viewing by teachers and pupils.

Board Heights

Concerns also exist with respect to the location of interactive whiteboards both from a teacher and a pupil perspective. If the board is too low the teacher may object to the positioning on the grounds of health and safety, conversely if the board is too high then pupils may not be able to reach the top portion of the board. If the latter is true then schools may choose to use a step or some staged area in front of the board which poses a significant trip/fall hazard.

There are currently no specific standards for the install height of an interactive whiteboard however there are several criteria that determine the most effective positioning of board:

To ensure compliance with health and safety requirements the projector should be mounted no lower than 2.2 metres from the floor.

The potential for image distortion (keystone appearance) when viewed from certain angles also determines at which point the interactive whiteboard can be positioned based on point 1.

Schools should therefore undertake an appropriate risk assessment to ensure that the board is positioned at the most appropriate height for intended users.