# Google for Education resources
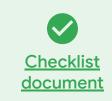
## Helping IT Admins meet **DfE** digital and technology standards in schools and colleges

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# Meeting digital and technology standards in schools and colleges

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## Broadband internet standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
| --- | --- | --- |
| Schools and colleges should use a full fibre connection for their broadband service | We recommend accounting for at least .2 - .5 Mbps per user in a typical deployment. Latency should be less than 100ms when pinging Google's public DNS server at 8.8.8.8. For HD video streaming, at least 1 Mbps, preferably 2-5 Mbps or greater per user. | Help Centre article |
| Schools and colleges should have a backup broadband connection to ensure resilience and maintain continuity of service | Whilst we have offline capability with Workspace for Education and Chrome, we recommend that you have a back up broadband connection. | |
| Schools and colleges should have appropriate IT security and safeguarding systems in place, under both child and data protection legislation | Google's tools like Workspace and Chrome provide some basic options for URL blocking, and automated blocking of potentially malicious websites, but those tools aren't designed to be used in place of an enterprise web filtering solution but instead to bolster your security posture where helpful. For example, forcing Safe Search on Google.<br><br>We encourage you to speak to multiple providers to find tools that might be best for your needs. There are lots of companies which support filtering Chromebooks, and some also provide safeguarding tools for keyword detection. These solutions often integrate with Google for authentication and are deployed as a Chrome extension - so they can filter by user, regardless of the device the user signs into, and you can get the insights you need for reporting. Get in touch with our team so we can support you to find the right solution - just click on the blue link in the bottom right of each page of this document | |

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# Network switching standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
| --- | --- | --- |
| **The network switches should provide fast, reliable and secure connections to all users both wired and wireless** | For deployments greater than 30 devices or involving multiple rooms, enterprise-grade, centrally managed networking equipment is recommended. | [Help Centre article](#) |
| Have a platform that can centrally manage the network switching infrastructure | N/A | |
| **The network switches should have security features to protect users and data from unauthorised access** | ChromeOS devices can be configured to meet a variety of Networking authentication standards, including certificates and user authentication. | [Help Centre article](#) |
| Core network switches should be connected to at least one UPS to reduce the impact of outages | N/A | |

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## Network cabling standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| Copper cabling should be Category 6A (Cat6A) | | |
| Optical fibre cabling should be a minimum 16 core multi-mode OM4 | High quality cabling reduces latency, which allows your staff and students to run quality video conferencing and videos. This is even more important as schools move towards a 1:1 device model. | [Help Centre article](#) |
| New cabling should be installed and tested in line with the manufacturer's guidance, warranty terms, and conditions | | |

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# Wireless network standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| Use the latest wireless network standard approved by the Wi-Fi Alliance | There are a range of Chromebook devices available from all manufacturers which include support for the latest wireless networking standard. https://goo.gle/findyour-educhromebook | More information Help Centre article |
| Have a fully functional signal from your wireless network throughout the school or college buildings and externally where required | It's important to make sure you have full coverage, particularly in 1:1 device environments, so that teachers and students always have online access to the things they need and facilitate learning anywhere on location. | |
| Have a solution that can centrally manage the wireless network | There are a number of ways that updates on ChromeOS can be configured to reduce impact on bandwidth including peer-to-peer updates, staggering updates, pinning versions or update blackout windows. | Help Centre article |
| Install security features to stop unauthorised access | Chromebooks support multiple authentication methods for WiFi, including PSKs, certificate based or MAC addresses. | Help Centre article |

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# Cyber security standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| Protect all devices on every network with a properly configured boundary or software firewall | Chromebooks come with a built-in protection. ChromeOS is designed with security in mind, and there is no need for antivirus apps, additional firewalls, or anything you would need for other operating systems. | More information |
| Network devices should be known and recorded with their security features enabled, correctly configured and kept up-to-date | Google for Education administrators can selectively deploy and restrict networks to groups of users or devices within their admin console. | |
| Accounts should only have the access they require to perform their role and should be authenticated to access data and services | In Google Workspace, you can delegate administrative access to users as required, including which administrative controls they have access to. We recommend having at least two super administrator accounts which are separate users' accounts for day to day access. Administrators can set alerts for key actions that could suggest an attack (for example, mass file or user deletion). | Help Centre article |
| You should protect accounts with access to personal or sensitive operational data and functions by multi-factor authentication | MFA can be enabled by user, group, or organisational unit and supports a variety of methods including SMS, security keys and biometrics. Context Aware Access is also available, in order to block access to certain services dependent on a number of factors (where/when and with what - e.g. location, IP address, time of day) | Help Centre article |
| You should use anti-malware software to protect all devices in the network, including cloud-based networks | ChromeOS devices do not require anti-virus software as protections are built in and enabled by default. If using other devices, appropriate anti-virus and malware software should be provided, but Chrome browser comes with Safe Browsing features that can be configured to prevent malicious or dangerous downloads. | Help Centre article<br><br>Help Centre article |

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# Cyber security standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| An administrator should check the security of all applications downloaded onto a network | In Google Workspace, administrators can setup features like security sandbox, which uses a virtual machine to check and run all executable email attachments before being delivered. | Help Centre article |
| All online devices and software must be licensed for use and should be patched with the latest security updates | ChromeOS is updated every 4 weeks and automatically updates the operating system. Administrators have the control decide to pin, stagger or pause updates to provide the best experience on their network. | Help Centre article |
| You should have at least 3 backup copies of important data, on at least 2 separate devices, at least 1 must be off-site | You might want a backup to protect your data against human error or ransomware attacks. Google has some options:<br><br>To export your entire organisation's data, use Data Export. A user can also export their own data.<br><br>Google also has many tools that you can use to work with and extract your organisation's Google Workspace data For additional third-party and partner options, you can also check out Google Cloud.<br><br>Google Vault is included with every GFE edition. Whilst it does enable exports of data, it's designed as a retention tool, rather than a comprehensive backup solution.<br><br>Get in touch with our team so we can support you to find the right solution - just click on the blue link in the bottom right of each page of this document | More information<br><br>Help Centre article |

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## Cyber security standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| Your business continuity and disaster recovery plan should include a regularly tested contingency plan in response to a cyber attack | Google is committed to building products that help protect student and teacher privacy and provide best-in-class security for your institution. You can trust that Google for Education products and services continuously protect users, devices and data from increasingly complex threats. | [More information](#)<br><br>[Help Centre article](#) |
| Serious cyber attacks should be reported | There are zero reported ransomware attacks on ChromeOS - ever. ChromeOS has 98% fewer vulnerabilities compared to Windows.<br><br>There are a number of built in protections and tools available to admins to mitigate ransomware or crypto locking risks outlined in [this guide](#). In the unlikely event of an attack, not only is remediation quick, but the Security Investigation Tool gives admins the ability to easily report on actions undertaken as part of the incident. | [Help Centre article](#)<br><br><br><br><br><br>[More information](#) |
| You must conduct a Data Protection Impact Assessment by statute for personal data you hold as required by General Data Protection Regulation | Google provides the Data Protection Impact Assessment resource center to support in writing effective DPIAs. | [More information](#) |
| Train all staff with access to school IT networks in the basics of cyber security | Google offer a range of courses, training and events for IT Admins. | [Help Centre article](#) |

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# Filtering and monitoring standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments |
|---|---|
| You should identify and assign roles and responsibilities to manage your filtering and monitoring systems | Google's tools, like Workspace and Chrome, provide some basic options for URL blocking and automated blocking of potentially malicious websites. However, those tools aren't designed to be used in place of an enterprise web filtering solution but instead to bolster your security posture where helpful. For example, forcing Safe Search on Google. |
| You should review your filtering and monitoring provision at least annually | |
| Your filtering system should block harmful and inappropriate content, without unreasonably impacting teaching and learning | We encourage you to speak to multiple providers to find tools that might be best for your needs. There are lots of companies out there which support filtering Chromebooks, and some also provide safeguarding tools for keyword detection, etc. These solutions often integrate with Google for authentication - so they can filter by user regardless of the device the user signs into, and you can get the insights you need for reporting. |
| You should have effective monitoring strategies that meet the safeguarding needs of your school or college | Get in touch with our team so we can support you to find the right solution and click on the blue link in the bottom right of each page of this document |

[Help Centre article]

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# Cloud solution standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments | |
|---|---|---|
| Use cloud solutions as an alternative to locally-hosted systems, including servers | Google Workspace for Education ([we operate the cleanest global cloud in the industry](#)) makes collaboration easier, streamlines instruction and keeps your learning environment secure. You can sign up for Google Workspace for Education Fundamentals for free, or upgrade to one of the enhanced versions, depending on the need of your users'. | [More information](#)<br><br>[Help Centre article](#) |
| Cloud solutions must follow data protection legislation | Google is committed to building products that help protect student and teacher privacy and provide best-in-class security for your institution. You can trust that Google for Education products and services continuously protect users, devices and data from increasingly complex threats. | [More information](#)<br><br>[Help Centre article](#) |
| Cloud solutions should use ID and access management tools | IT administrators can choose to create users directly in Google Workspace for Education, sync users from other databases like Active Directory, and even utilise other identity providers to authenticate logins via the SAML protocol. | [Help Centre article](#) |
| Cloud solutions should work on a range of devices and be available when needed | Google Workspace for Education works on all devices via a web browser, and has native apps for Android and iOS. | [Help Centre article](#) |
| Make sure that appropriate data backup provision is in place | You might want a backup to protect your data against human error or ransomware attacks. Google has some options: to export your entire organisation's data, use Data Export. A user can also export their own data. Google also has tools you can use to extract your organisation's Workspace data. For additional third-party and partner options, you can also check out Google Cloud. Google Vault is included with every Workspace edition. Whilst it does enable exports of data, it's designed as a retention tool, rather than a comprehensive backup solution. Get in touch with our team for more support - just click on the blue link in the bottom right of each page of this document | [More information](#)<br><br>[Help Centre article](#) |

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# Servers and storage standards for schools and colleges

| DfE Standard | How to meet the standard with Google? / Comments |
|---|---|
| All servers and related storage platforms should continue to work if any single component or service fails | |
| Servers and related storage platforms must be secure and follow data protection legislation | |
| All servers and related storage platforms should be energy-efficient and set up to reduce power consumption, while still meeting user needs | For Google Workspace and ChromeOS management there is no requirement for on premise servers. |
| All server and related storage platforms should be kept and used in an appropriate physical environment | |

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