

# Supplementary guidance:

the inspection of information  
and communication  
technology (ICT) in schools

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May 2023

This guidance is also available in Welsh.

**The purpose of Estyn is to inspect quality and standards in education and training in Wales. Estyn is responsible for inspecting:**

- ▲ nursery schools and settings that are maintained by, or receive funding from, local authorities
- ▲ primary schools
- ▲ secondary schools
- ▲ all-age schools
- ▲ special schools
- ▲ pupil referral units
- ▲ independent schools
- ▲ further education
- ▲ independent specialist colleges
- ▲ adult community learning
- ▲ local authority education services for children and young people
- ▲ teacher education and training
- ▲ Welsh for adults
- ▲ work-based learning
- ▲ learning in the justice sector

Estyn also:

- ▲ reports to Senedd Cymru and provides advice on quality and standards in education and training in Wales to the Welsh Government and others makes public good practice based on inspection evidence

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**This document has been translated by Trosol (English to Welsh).**

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**What is the purpose of this supplementary guidance?**

To provide guidance to inspectors for evaluating ICT standards and provision. This provides further guidance for inspectors to use alongside the sector guidance for inspection.

**For whom is it intended?**

For all inspectors of maintained primary, secondary and special schools.

**From when should the guidance be used?**

April 2023

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## About this guidance

Our inspection guidance explains **What** we inspect and **How** we inspect. However, we also produce supplementary guidance to help inspectors to consider specific aspects of education and training further.

The supplementary guidance documents set out some key principles, considerations, and resources for inspectors. They relate to all sectors that Estyn inspects, unless they state that they are for a specific sector. They expand on certain aspects of education/training (e.g. the inspection of literacy) or on ways of conducting inspections (e.g. the use of learning walks) or specific inspection arrangements (e.g. guidance on inspecting church schools).

The supplementary guidance documents do not aim to be comprehensive. Inspectors are not required to work through them exhaustively when covering any specific aspect on an inspection. However, inspectors may find them useful when responding to specific emerging questions that arise during inspections or when they wish to reflect or investigate further.

The supplementary guidance documents may help providers gain an understanding of Estyn's inspection arrangements. They may also be helpful to providers in evaluating specific aspects of their own provision.

Our inspection work is based on the following principles:

- Inspectors will approach inspection with a positive mindset to ensure it is the best possible professional learning experience for the staff in each provider
- Inspectors will take a learner-led approach to inspection
- Inspectors will always focus strongly on the quality of teaching and learning
- Inspectors will seek out well-considered innovative practice
- Inspectors will tailor the inspection activities according to the circumstances in each provider as far as possible
- Inspectors will be agile and responsive to emerging findings and will use the increased range of inspection tools and approaches available
- Inspectors will consider everything in the inspection framework, but will only report on the key strengths and weaknesses within each provider

## Inspecting Digital Skills

Digital competence is a mandatory cross curricular skill alongside literacy and numeracy, and schools must develop a curriculum which creates opportunities for pupils to become confident users of technology. Under the current inspection framework, Estyn will continue to inspect how well pupils develop their digital skills and can extend and apply them across the curriculum.

The [Digital Competence Framework](#) (DCF) and the computational element of the [Science and Technology](#) area of learning and experience (AOLE) provide guidance for settings to create learning experiences that ensure suitable progression in pupils digital skills.

For primary schools, roll-out of the Curriculum for Wales commenced in September 2022, with the curriculum being mandatory for Years 7 and 8 from September 2023. Therefore, primary schools should already be implementing a curriculum that reflects the cross-curricular skills of digital competence and secondary schools should be engaging effectively with the DCF. However, where this is not the case, inspectors need to consider if this is having a negative impact on implementing, or preparing pupils and staff for the Curriculum for Wales.

The key tasks for inspectors are to evaluate:

- the standards of pupils' digital skills
- whether pupils use their digital skills effectively to broaden and deepen their knowledge of the whole curriculum
- how well the curriculum develops progression in pupils' digital skills
- the quality of leadership in, and management of the co-ordination of digital skills

The main indicators of progression in digital skills are:

- a developing sense of purpose and audience for their work
- increasing competence and sophistication in the creative use of software functions
- the gradual change from using given digital resources to choosing and selecting resources to suit the task and purpose
- An increasing sophistication in collaborative learning using digital tools
- A growing awareness of keeping safe online and the impact on personal well-being when using digital platforms.

## Gathering evidence

Inspectors will look for evidence of the use of digital skills across the curriculum observing lessons, in books and in both classroom and whole school displays as you walk around the school. Many schools have digital portfolios for pupils for example using Hwb or Google Drive. It is useful to ask school leaders to provide access to some examples of these online portfolios during the inspection. The school website can also be a source of valuable evidence.

However, nothing compares to observing and discussing digital work with the learners themselves. It is therefore expected that you meet with a group of learners as we do when we listen to readers as part of inspecting literacy. This will allow inspectors to view and to discuss the work with pupils in front of digital devices so that learners can access, show, and discuss their individual and collaborative work

Where possible, inspectors should meet with leaders responsible for developing digital skills across the school and discuss how the school is implementing its vision for the DCF and the Curriculum for Wales.

Discussions could focus on,

- how teachers' professional learning needs are being identified and how this information is used to plan training, support, and guidance.
- How schools map the DCF across the curriculum and ensure that there are no gaps in provision and include sufficient progression and continuity
- How staff plan for the development of pupils' digital skills that allow them to work and collaborate safely and purposefully online
- How leaders ensure that staff collaborate with others to share good practice.

## Digital skills and the inspection framework

### IA1 – Learning

Each inspection report will include a paragraph in inspection area 1 on the standards of pupils' digital skills and how well they use them across the curriculum. Inspectors will need to decide if pupils' digital skills are progressing well across the school and if pupils are developing a growing independence in using and applying these skills with increasing sophistication.

Below are some examples showing how pupil's digital skills may progress. These are not intended as a tick list for inspectors to judge pupils learning for example at 5, 8 and 11, but as guidance on how learners should become more sophisticated in their knowledge and application of digital tools across the curriculum.

### **By Progression Step 1 pupils can:**

- begin to recognise simple rules that keep them safe online
- save and retrieve their digital work from apps and familiar software
- can create simple digital content, adding text and images, simple animations and videos
- control devices by giving simple instructions and spot mistakes and correct them.  
*For example, when producing simple algorithms to control a toy*
- present data they have collected into simple charts and talk about what they have found out

### **By Progression Step 2 pupils can:**

- understand basic rules of how to keep safe online, including using passwords, and not sharing personal information with strangers
- begin to understand how the overuse of digital devices can impact on personal well-being
- begin to communicate online using simple methods such as email
- work collaboratively with others on familiar platforms to create shared documents, *for example using online word processors, presentations and spreadsheets*
- understand how to save and retrieve their files from different locations
- create, edit, and improve digital content, combining text, images, sound, animations and videos using more sophisticated software tools, *for example, adding hyperlinks, copy and paste, crop and rotate images.*
- create flowcharts/diagrams of instructions and create and follow simple algorithms to predict outcomes or spot errors.
- collect, organise and analyse data in a range of formats, *for example tables, charts, databases and spreadsheets and use these to answer questions*

### **By Progression Step 3 pupils can,**

- understand how to keep safe online, including thinking critically about the information shared and understand how to identify secure websites or false information
- understand appropriate online behaviour and develop strategies for dealing with online dangers such as bullying, sexual content and racist or homophobic language
- develop a secure understanding of the importance of balancing screen time with other activities, *for example understand why gaming is sometimes difficult to limit and how it can affect well-being*
- begin to understand how to cite sources when carrying out research, *for example when referencing online or offline sources*
- use a range of forms of digital communication and understand which is best to use in different contexts, *for example email, video conferencing, instant messaging*
- collaborate with others to create and refine their work, responding to each other's online feedback
- independently select and use software to incorporate a wide range of multimedia components and use a growing range of editing tools to make quality digital

content, *for example use range of text formats, spellchecker, find and replace, word wrap, adjust and refine images, trim and split sound and video clips, create transitions, embed objects into presentations*

- create and refine algorithms, including identifying repeating patterns and adding loops
- use sensors and actuators to gather data and control physical models
- use and design spreadsheets and databases to collect and analyse information or to support an investigation or research project
- use a range of formulae in spreadsheets for example  $+ - / x$ , *sum, average, max, min*

### **IA3 – Teaching and learning experiences**

When evaluating how well the curriculum provides learning opportunities for pupils to develop those skills outlined above, inspectors should consider how well settings:

- ensure that digital skills are planned and taught systematically to support all pupils in developing their understanding; this is particularly important for those pupils who have not had a wider of using digital resources outside of school
- ensure that their curriculum builds pupils skills progressively and includes aspects such as coding and the use of databases and spreadsheets across the curriculum, which are commonly weak in schools
- ensure that learners have regular access to digital resources appropriate to their age, and help to develop their independence in choosing when and how to use digital tools
- plan for digital experiences in other AOLEs, making sure the skills developed support and enhance learning across the curriculum, for example by mapping out where digital skills can be taught, then applied and developed purposefully, in new contexts

### **IA4 – Care, support and guidance**

Inspectors should find further information on each school's approach to online safety in the self-evaluation form that schools complete before their inspection ('Self-evaluation form for Safeguarding and Child Protection').

Both the DCF and the current subject orders place a great importance on safe and appropriate use of digital skills, and this should be embedded throughout all activities. Please check for this as it also has an impact on your discussions on safeguarding in 4.2.

### **IA5 – Leadership and management**

Inspectors may hold discussions with leaders and teachers to consider how well they address national priorities, including effective approaches to teaching which improve pupils' digital skills. Inspectors may discuss the school's approach to evaluating and improving provision for the teaching and learning of digital skills. Schools may reference their use of the Welsh Governments [360 Cymru self-review tool](#) which supports the [Digital Profesional Learning Journey](#) (DPLJ).



Inspectors may consider:

- if leaders are well-informed about developments in the teaching and learning of digital skills, provide strong leadership and convey high expectations about pupils' progress
- if the development of digital technology has an appropriate level of priority in strategic planning
- how well the digital lead supports other teachers with their planning and if professional learning successfully develops staff skills to improve the teaching of digital skills
- how well staff and pupils use digital platforms to keep parents informed about their children's progress and how well they use digital skills to support their learning at home

## Appendix 1 – Listening to Learners

### Questions for listening to learners – please choose and adapt questions for children and pupils with complex needs based on their stage of development

#### Younger pupils in the Foundation Phase

##### Communicating

What do you like about working with the computer / tablet?

Can you show me ..... a picture/photo/the icon for a preferred activity/the tablet/PC ?

What did you do?

Show me how you can open and close apps on a tablet e.g. to use a drawing app.

Show me how you can move objects across the screen on the computer or how to draw a picture.

Can you take a picture? Show me?

##### Data handling

Possible awareness of live' graphs using pupils and progressing onwards to use a Pictogram

Can you sort these objects? – with objects/on screen

##### Modelling

What do you like about working with a programmable toy (i.e. BeeBot etc)

Can you make it go?

What does it do?

How do you control / use it?

##### Online safety

Who is this? – looking at picture of self/ familiar person

#### Year 2 pupils in the Foundation Phase

##### Communicating

What do you like about working with the computer / tablet?

Can you show me examples of what you have done?

Can you show me a story/presentation that you've done using the tablet or computer?

How do you change the size or colour of words on a page – or how they look (changing font)?

Can you show me examples of pictures you've taken using a camera or tablet?

What do you do if you need help?

Could you change it? Make it better? How?

How do you share your work?

How do you save your work?

### **Data handling**

Can you show me examples of graphs that you have created using a tablet or computer? – progression is usually from ‘live’ graphs and pictograms in N/R/Yr1 to block (Yr1) and bar graphs in Yr2

More able pupils may be able to show you examples of getting answers from a database.

Can you think of an example of where you used the internet to look for information?  
How did you do this?

### **Modelling**

How do you control / use a programmable toy (i.e. BeeBot etc)?

Can you show me how to move the programmable toy around the smallest square it can normally create? How about a rectangle? (For more able pupils you could ask what changes they would have to make to create a square double the smallest size).

### **Online safety**

How do you stay safe online?

What do you do if you find something that’s not nice on the computer?

How do you share information?

## **Pupils in lower key stage 2**

### **Communicating**

What do you like about working with the computer / tablet?

Can you show me examples of what you have done?

Can you show me a story/presentation that you’ve done using the tablet or computer?

How do you change the size or colour of words on a page – or how they look (changing font)? How do you add pictures or a video or sound?

Can you show me examples of pictures etc you’ve added to a piece of work?

Can you play me any sound you’ve created using an app e.g. GarageBand?

Can you show me any videos or animations that you’ve created?

### **Data handling**

Can you show me examples of graphs that you have created using a tablet or computer? – progression is usually from ‘live’ graphs and pictograms in N/R/Yr1 to block (Yr1) and bar graphs in Yr2 to bar and line graphs in Yr3&4

Can pupils show you examples of getting answers from a database or using a database in thematic work e.g. a data file on ‘Ourselves’ or how they classified animals or materials using a branching database?

Can you give you a range of examples of where they have used the internet to look for information? How did you do this?

### **Modelling**

Can they explain how to control a programmable toy to create various simple shapes? *(Are they beginning to understand how changing one variable affects another in models or simulations e.g. doubling the size of a square created using a programmable toy or creating rectangles of various sizes?)*

Can they talk you through how they used a simulation online e.g. XYZ in Hwb?

### **Online safety**

How do you stay safe online?

What do you do if you find something that's not nice on the computer?

How do you share information?

Tell us a rule about how the internet should be used here at school?

### **Pupils in upper key stage 2**

#### **Communicating**

What do you like about working with the computer / tablet?

Can you show me examples of what you have done?

Can you show me a story/presentation that you've done using the tablet or computer for a specific purpose or audience?

How do you change the size or colour of words on a page – or how they look (changing font)? How do you add pictures or a video or sound?

Can you show me a front page of a newspaper that you've created i.e. a columned document with pictures?

Can you show me examples of pictures etc you've added to a piece of work?

Can you play me any sound you've created using an app e.g. GarageBand?

Can you show me any videos or animations that you've created?

Can you show me how you send and receive information electronically?

#### **Data handling**

Can you show me examples of graphs that you have created using a tablet or computer? – progression is usually from 'live' graphs and pictograms in N/R/Yr1 to block (Yr1) and bar graphs in Yr2 to bar and line graphs in Yr3&4 to bar, line and scatter graphs in Yr 6

Can pupils show you examples of how they added to or amended a database? More able pupils may be able to show you how they created a database (Level 5)

Can you please show me how you can search and sort on more than one field on a database – e.g. how many pupils have blonde hair and blue eyes?

Can you give you a range of examples of where they have used the internet to look for information? How did you do this?

#### **Modelling**

Can they explain how changing one variable affects another in models or simulations e.g. doubling the size of a square created using a programmable toy or creating rectangles of various sizes; or the effect of a 15% rise in costs on the fruit on their Fruit Shop spreadsheet?

Can they explain how to use a spreadsheet as a currency converter or to calculate the area and perimeter of a room?

Can they talk you through how they used a simulation online e.g. XYZ in Hwb?

### **Online safety**

How do you stay safe online?

What do you do if you find something that's not nice on the computer?

How do you share information?

Tell us a rule about how the internet should be used here at school?

## **Pupils in key stage 3**

### **Communicating**

Can you show me a story/presentation that you've done for a specific purpose or audience using the tablet or computer? Can you talk me through how you prepared/found and combined the various pieces of information and media? Can you show me various copies of that shows how you refined the work and came to the finished piece of work?

Can you show me a front page of a newspaper that you've created i.e. a columned document with pictures?

Can you show me examples of pictures etc you've added to a piece of work?

Can you play me any sound you've created using an app e.g. GarageBand?

Can you show me any videos or animations that you've created?

Can you show me how you send and receive information electronically?

How do you use ICT to check accuracy and plausibility of information? (by comparing information from different sources, making choices to meet the needs of a specific purpose or audience).

### **Data handling**

Can you show me examples of graphs that you have created and explain how you did this?

Can you show an example of a database you created?

How do you use databases to follow complex lines of enquiry and draw conclusions? e.g. can you please show me how you can search and sort on more than one field on a database – e.g. how many pupils have blonde hair and blue eyes or how many pupils weigh > than 40kg and are < than 120cm tall?

Can you give you a range of examples of where they have used the internet to search and sort on more than one field on a database e.g. a Ford Focus with 5 doors and worth between £4000 - £4500. How did you do this?

### **Modelling**

Can you explain how changing one variable affects another in models or simulations e.g. the effect of a 17.5% rise in costs on the profit made by the seller?

Can you explain clearly what a formula does inside a cell?

Can you explain how to use a spreadsheet to calculate the area and perimeter of a room?

Can you talk me through how you used a simulation online e.g.

<https://hwb.wales.gov.uk/search?query=simulations> – can they vary the rules within them and test hypotheses?

### **Online safety**

How do you stay safe online?

Tell us a rule about how the internet should be used here at school?

What opinions do you have about issues raised by the use of ICT?

What are the dangers associated with misuse of the internet/related technologies?

What are the implications of using networks?

## **Pupils in key stage 4**

### **Communicating**

Can you show me a publication/presentation/video/animation that you've done for a specific purpose or audience using the tablet or computer?

Can you talk me through how you planned the work?

Can you show me various copies that shows how you refined the work and came to the finished piece of work?

How did you refine your choice of selected information to match the needs of a specific purpose or audience?

How do you identify the advantages and limitations of different applications and select and use suitable ICT facilities?

### **Data handling**

Can you show me examples of graphs that you have created and explain how you did this?

Can you show me how you designed a database (i.e. making appropriate choices within a data-handling application, using its specialised functions)?

### **Modelling**

Can you show me how you designed a computer model to meet a specific need?

### **Online safety**

How do you stay safe online?

Tell us a rule about how the internet should be used here at school?

Can they discuss in an informed way the social, economic, ethical and moral issues raised by ICT?

## Appendix 2 - Questions for senior leaders

Select the most appropriate questions according to lines of inquiry:

<b>IA 1</b>	What is your view on standards of digital skills across the curriculum in the school?
<b>IA 2</b>	What is your view on how well pupils know how to keep safe online? How do you know
<b>IA 3</b>	What actions have you taken to promote the development of digital skills and online safety throughout the school? How are you planning to develop learners' skills?
<b>IA 5</b>	Are there any barriers preventing pupils developing good digital skills?
<b>IA 3</b>	How do you ensure the curriculum provides appropriate opportunities for learners to develop their digital skills?
<b>IA 4</b>	How do you track and monitor pupils' progress in digital skills?
<b>IA 4</b>	Is information on pupils' skills developments shared effectively between phases? Evidence?
<b>IA 4</b>	How secure are your online safety procedures? How well do they use 360 Degree Safe Cymru to review and improve their online safety policies and practice? What do they use if they have not registered or not active in using 360 degree Safe Cymru? Is this robust enough?
<b>IA 5</b>	How do you ensure progression and suitable breadth of digital skills are covered in all age groups and areas of learning / subjects?
<b>IA 5</b>	What training and support have staff received to improve the use digital tools across the curriculum?
<b>IA 5</b>	How do you ensure value for money when procuring ICT equipment and training?