

EYFS

Despite computing not being explicitly mentioned within the Early Years Foundation Stage (EYFS) statutory framework, which focuses on the learning and development of children from birth to age five, there are many opportunities for young children to use technology to solve problems and produce creative outcomes.

As young children take part in a variety of tasks with digital devices, such as moving a Bee Bot around a classroom, they will already be familiar with the device before being asked to undertake tasks related to the key stage one (KS1 - ages 5 - 7 years) computing curriculum, such as writing and testing a simple program. Not only will children be keen to again use a device they had previously enjoyed using, their cognitive load will also be reduced, meaning they are more likely to succeed when undertaking activities linked to the next stage in their learning.

Within the revised EYFS statutory framework, the Technology strand within Understanding the World has been removed. However, there are opportunities within each area of the framework to enable practitioners to effectively prepare children for studying the computing curriculum.

Year 1

Computing systems and networks

that technology is something that can help us
how to identify examples of technology
how to recognise that a computer is an example of technology and name the main parts
that choices are made when using technology
why rules are needed when using technology

Creating media - Digital painting

the effect of different freehand tools
that computers can be used to create art
a tool can be adjusted to suit my need
when it is appropriate to use each tool
my choices can have an impact

Creating media - Digital writing

that a keyboard is used to enter text into a computer
that the shift key changes the output of a key
text can be changed
the appearance of text can be changed
that there will be an impact of choices made
how to compare painting on a computer with painting using brushes

Data and Information - Grouping Data

that objects can be counted
that information can be presented
that information can be presented in different ways

Programming A - Moving a robot

that some words can be enacted
how to explain what a given command does
how to match a command to an action
how to understand that a program is a set of commands that a computer can do
how to recall a series of instructions can be issued

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Year 2

Computing systems and networks

recognise different types of computers used in school
identify that a computer is part of information technology
recognise the features of information technology
talk about the uses of information technology
say how rules for using information technology can help us
explain how information technology benefits us
recognise that choices are made when using information technology

Creating media - Digital photography

to recognise that some digital devices can capture images using a camera
to talk about how to take a photograph
to recognise that photographs can be saved and viewed later
to recognise features of a good photographs
to identify how a photograph could be improved
to explain the effect of light on a photograph
to recognise that photographs can be changed after they have been taken
to recognise that some images are not accurate

Creating media - Making music

identify that computers can be used to play sounds of different instruments
to identify that the same pattern can be represented
to compare playing music on instruments with making music on a computer

Data and information - pictograms

to use a tally chart to collect data
to compare objects that have been grouped by attribute
to suggest appropriate headings for tally charts and pictograms
to construct (complete) a given comparison question
to use a computer program to present information in different ways
to explain that we can present information using a computer
to give simple examples of why some information should not be shared

Programming A - Robot algorithms

to describe that a series of instructions is a sequence
to explain what happens when we change the order of instructions
to recall that a series of instructions can be issued before they are enacted

to recognise that you can predict the outcome of a program

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Year 3

Computing systems and networks

To describe what an output is
to explain that an output is produced by the process
to identify how changing the process can affect the output
to recognise that a digital device is made up of several parts
to recognise that computers can be connected to each other
to identify how devices in a network are connected with one another
to recognise that a network is made up of a number of components
to explain how information is passed through multiple connections

Creating media - animation

to explain that an animation is made up of a sequence of images
to identify that a capturing device needs to be in a fixed position
to recognise that smaller movements create smoother animation
to explain the need for consistency in working
to explain the impact of adding other media to an animation

Branching databases

to investigate questions with a yes/no answer
to identify attributes that you can ask yes/no questions about
to select an attribute to separate objects into two similarly sized groups

to explain that a branching database is an identification tool
to recognise that a data set can be structured using yes/no questions

to explain that a well-structured branching database will enable you to identify objects using fewer questions
to relate two levels of a database using AND
to suggest real-world applications for branching databases

Programming A - sequence in music

to explain that programs start because of an input
to explain what a sequence is
to identify that a program includes sequences of commands
to identify that the sequence of a program is a process
to explain that the order of commands can affect a program's output
to identify that different sequences can achieve the same output
to identify that different sequences can achieve different outputs

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**Victoria Road Primary
School**

**Computing
End Points**

Year 4

Computing systems and networks - The Internet

to describe how networks connect to other networks
to outline how information can be shared via the WWW
to recognise the need for security on the internet
to describe how to access the WWW
to explain that the WWW comprises of websites and web pages
to describe the current limitations of WWW media
to evaluate the reliability of content and consequences of unreliable content
to explain the benefits of the WWW

Creating media - Audio editing

to identify that sound can be recorded
to identify that an input device is needed to record sound
to identify that output devices are needed to play audio
to recognise that recorded audio can be stored on a computer
to recognise that audio can be edited
to recognise that sound can be represented visually as a waveform
to recognise that audio can be layered so that multiple sounds can be played at the same time
to consider the results of editing choices made

Creating media - photo editing

To use an application to change the whole of a digital image
to change the composition of a digital image by rotating, flipping, cropping, adjusting colours, applying filters and adding effects
to use an application to change part of a digital image by selecting parts of the image, cloning, copying and pasting to change the composition and to retouch.

to use an application to add to the composition of a digital image by adding text

Data and information - Data Logging

To suggest questions that can be answered using a table of data.
To identify data that can be logged over time.
To identify that sensors are input devices.
To recognise that a sensor can be used as an input device for data collection.
To explain that a data logger captures data points from sensors over time

Programming A - Repetition in shapes

To relate to what repeat means
To identify everyday tasks that include repetition
To explain that we can use a loop command in a program to repeat instructions
To identify patterns
To identify a loop within a program
To explain that in programming there are indefinite loops and count-controlled loops

<p>health, wellbeing and lifestyle privacy and security copyright and ownership</p>		<p>To explain that an indefinite loop will run until the program is stopped To explain that you can program a loop to stop after a specific number of times. To identify patterns in a sequence To explain the importance of instruction order in a loop To recognise that not all tools enable more than one process to be run at once</p> <p>Project Evolve</p> <p>self image and identity online relationships online reputation online bullying managing online information health, wellbeing and lifestyle privacy and security copyright and ownership</p>
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<p style="text-align: center;">Year 5</p> <p style="text-align: center;"><u>Computing systems and networks - sharing information</u></p> <p>to recognise that a system is a set of interconnected parts which work together explain that computers can be connected to form IT systems identify that data can be transferred between IT systems recognise inputs, processes and outputs explain the role of search engines and web crawlers explain how search results are ranked and selected explain how search engines make money through advertising identify some of the limitations of search engines</p> <p style="text-align: center;"><u>Creating media - vector drawing</u></p> <p>identify that a vector drawing comprises separate objects recognise that each object in a drawing is in its own layer recognise that vector images can be scaled without impact on quality recognise that objects can be modified in groups</p> <p>explain how alignment and size guides can help create a more consistent drawing. to consider the impact of choices made</p> <p style="text-align: center;"><u>Creating media - video editing</u></p> <p>explain the features of video as a visual media format recognise which devices can and can't record video explain purpose of a storyboard recognise filming techniques can be used to create different effects recognise the need to review and reflect on a project recognise the limitations of editing identify videos can be edited and improved through reshooting and editing recognise projects need to be exported to be shared</p> <p style="text-align: center;"><u>Data and information - Flat file databases</u></p> <p>explain that a computer program can be used to organise data. explain that tools can be used to select data and answer questions. ordering data allows us to answer some questions operands can be used to filter data outline how 'AND' and 'OR' can be used to refine data selection explain that computer programs can be used to compare data visually explain that we present information to communicate a message</p> <p style="text-align: center;"><u>Programming A - Selection in physical computing</u></p> <p>A condition can only be true or false A count controlled loop contains a condition Compare a count controlled loop with a condition controlled loop Explain that a condition controlled loop will stop when a condition is met Explain that when a condition is met, a loop will complete a cycle before it stops</p> <p style="text-align: center;"><u>Project Evolve</u></p> <p>self image and identity online relationships online reputation online bullying managing online information health, wellbeing and lifestyle privacy and security copyright and ownership</p>

<p style="text-align: center;">Year 6</p> <p style="text-align: center;"><u>Computing systems and networks - Communication</u></p> <p>that data is transferred across networks using agreed protocols that connections between computers allow access to shared stored files that data is transferred in packets that computers connected to the internet allow people in different places to work together the opportunities that technology offers for communication and collaboration explain which types of media can be shared through the internet that communicating and collaboration using the internet can be public or private</p> <p style="text-align: center;"><u>Creating media - 3D modelling</u></p> <p>that 3D models can be created on a computer that a 3D environment can be viewed from different perspectives that digital tools can be used to manipulate 3D objects how placeholders can create holes in 3D objects that artefacts can be broken down into a collection of 3D objects</p> <p style="text-align: center;"><u>Creating media - Web page creation</u></p> <p>the relationship between HTML and visual display that web pages can contain different media that web pages are written by people that a website is a set of hyperlinked web pages Different components of a web page layout The importance of ownership and use of images (copyright) The need to recognise the need to preview pages Recognise the need for a navigation path the implications of linking to content owned by others</p> <p style="text-align: center;"><u>Data and information - Spreadsheets</u></p> <p>Identify questions that can be answered using spreadsheet data. Explain what an item of data is in a spreadsheet Outline that there are different software tools to work with data. Explain how the data type determines how a spreadsheet can process the data. Explain that formulas can be used to produce calculated data. Recognise cells can be linked Explain why data should be organised in a spreadsheet Recognise that cell's value automatically updates when the value in a linked cell is changed Evaluate results in comparison to the question asked</p> <p style="text-align: center;"><u>Programming A - Variables in games</u></p> <p>Define a variable as something that is changeable and identify examples. Explain a variable can be used in a program (scoreboard) Explain a variable has a name or a value Recognise that a value of a variable can be used by a program and its value can be updated. Variables can hold numbers or letters. you can define the way a variable is changed and recognise that it can be set as a constant Explain the importance of setting up a variable at the start of a program. Explain that there is only one value for a variable at any one time and if you change the value of a variable you cannot access the previous value</p> <p style="text-align: center;"><u>Project Evolve</u></p> <p>self image and identity online relationships online reputation online bullying managing online information health, wellbeing and lifestyle privacy and security copyright and ownership</p>
