



Roundhill Primary School: RPS Specialist Formal Framework Computing

Computing – EYFS/KS1/KS2 B1-6

EYFS

What is a computer? – Key skills

- Use different digital devices
- Recognise that you can access content on a digital device
- Use a mouse, touchscreen or appropriate access device to target and select options on screen
- Recognise a selection of digital devices
- Recognise the basic parts of a computer, e.g. mouse, screen, keyboard
- Select a digital device to fulfil a specific task, e.g. to take a photo

Presenting Information and Multimedia

- Use technology to explore and access digital content
- Operate a digital device with support to fulfil a task
- Create simple digital content, e.g. Digital art
- Choose media to convey information, emotions or themes

Data

- Access content in a range of formats, e.g. image, video, audio
- Answer basic questions about information displayed in images e.g. more or less

Programming and Algorithms

- Explore technology
- Repeat an action with technology to trigger a specific outcome
- Recognise the success or failure of an action
- Follow simple instructions to control a digital device
- Recognise that we control computers
- Input a short sequence of instructions to control a device

Digital literacy

- Are aware that some online content is inappropriate
- Are aware that information can be public or private
- Know to tell an appropriate adult if they see something on the computer that upsets them.



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Learning profile B1

What is a computer? – Key skills

- Recognise a range of digital devices.
- Select a digital device to fulfil a specific task, e.g. to take a photo
- Name a range of digital devices, e.g. laptop, phone, games console
- Log on to the school computer unlock the school tablet with support
- Identify the basic parts of a computer, e.g. mouse, keyboard, screen
- Use a suitable access device (mouse, keyboard, touchscreen, switch) to access and control an activity on a computer
- Open key applications independently
- Save and open files with support
- Add an image to a document from a given folder/source with support

Presenting Information and Multimedia

- Create digital content, e.g. digital art
- Choose media from a selection (e.g. images, video, sound) to present information on a topic
- Recognise that you can find out information from a website
- Recognise that you can edit digital content to change its appearance
- Select basic tools/options to change the appearance of digital content, e.g. filter on an image / font / size of paintbrush
- Combine media with support to present information, e.g. text and images.

Data

- Recognise different forms of digital content, i.e. text, image, video and audio
- Collect simple data (e.g. likes/dislikes) on a topic
- Present simple data using images, e.g. number of animals
- Recognise charts and pictograms and why we use them
- Explain information shown in a simple chart or pictogram
- Modify simple charts/pictograms, e.g. add title, item or labels
- Identify the key features of a chart or pictogram.
- Collect data on a topic (eye colour, pets etc.) and present in a pictogram or chart

Programming and Algorithms

- Recognise that computers don't have a brain
- Explain that we control computers by giving them instructions



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- Create a simple program e.g. to control a floor robot
- Create a simple algorithm
- Predict the outcome of a simple algorithm or program
- Explain what an algorithm is – a sequence of instructions to make something happen
- Recognise that the order of instructions in an algorithm is important
- Debug an error in a simple algorithm or program e.g. for a floor robot

Digital literacy

- Use a simple password when logging on, where relevant
- Explain why we use passwords.
- Recognise examples of personal information e.g. name, image
- Know who to tell if concerned about content or contact online
- Recognise that digital content belongs to the person who created it
- Talk about their use of technology at home

Learning profile B2

What is a computer? – Key skills

- Recognise what a computer is (input > process > output).
- Recognise that a range of digital devices contain computers, e.g. phone, games console, smart speaker.
- Explain what the basic parts of a computer are used for
- Identify and use input devices, e.g. mouse, keyboard; and output devices, e.g. speakers, screen
- Open key applications independently
- Save and open files to/from a given folder
- Add an image to a document from a given folder/source
- Resize an image in a document
- Highlight text and use arrow keys
- Capture media independently (e.g. take photos, record audio)

Presenting Information and Multimedia

- Create simple digital content for a purpose, e.g. digital art
- Recognise that we can use technology to record/take and playback audio/photographs
- Apply edits to digital content to achieve a particular effect, e.g. emphasise part of a text.



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- Present ideas and information by combining media, e.g. text and images
- Explain that you can search for information on the internet
- Plan out digital content
- Identify the common features of digital content
- Recognise that we can use different types of media to convey information

Data

- Identify different forms of digital content, i.e. text, image, video and audio
- Recognise charts, pictograms and branching databases, and why we use them
- Identify an object using a branching database
- Recognise an error in a branching database
- Create a branching database using pre-prepared images and questions
- Identify the features of a good question in a branching database
- Independently plan out and create a branching database
- Evaluate a given branching database and suggest improvements

Programming and Algorithms

- Create a program with multiple steps e.g. to control a floor robot
- Predict the outcome of an algorithm or program with multiple steps
- Identify and correct errors in a given algorithm or program, and recognise the term 'debugging'
- Explain what an algorithm and program is
- Plan out a program by creating an algorithm, and evaluate its success

Digital literacy

- Remember a simple password to log onto the computer or a website
- Recognise what personal information is and the need to keep it private
- Identify rules for acceptable use of technology in school
- Recognise that some information found online may not be true
- Recognise that spending a lot of time in front of a screen can be unhealthy



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Learning profile B3

What is a computer? – Key skills

- Describe what a computer is (input > process > output)
- Explain the difference between input and output devices on a computer
- Know where to save and open files (e.g. in shared folder)
- Save files with appropriate names
- Use a keyboard effectively to type in text
- Use left-, right- and double-click on the mouse
- Add an image to a document from the internet
- Resize and move an image in a document
- Use a search engine to find simple information
- Recognise that school computers are connected

Presenting Information and Multimedia

- Present ideas and information by combining media independently
- Design and create simple digital content for a purpose/audience
- Edit digital content to improve it
- Identify the features of a good piece of digital content
- Explain why we use technology to create digital content
- Recognise why we use different types of media to convey information

Data

- Recognise charts, pictograms and databases, and why we use them
- Present information using a suitable chart
- Explore a record card database to find out information
- Use filters in a database to find out specific information
- Name the key parts of a database
- Answer questions about information in a database
- Name some benefits of using a computer to create charts and databases
- Recognise that search engines store information in databases

Programming and Algorithms

- Predict the outcome of a block or text-based program (Scratch/Logo)



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- Successfully modify an existing program
- Identify repeated steps in a program or algorithm
- Create examples of algorithms containing count-controlled loops
- Use a count-controlled loop to make a program more efficient
- Recognise that we can create an algorithm to help plan out a program
- Recognise a forever loop in a program
- Use a forever loop in a program to keep something happening
- Identify errors in a block or text-based program and correct them
- Recognise that different inputs can be used to control a program

Digital literacy

- Explain why we need to keep our password safe
- Recognise when to share personal information and when not to
- Recognise that some people lie about who they are online
- Are aware that games and films have age ratings
- Recognise that digital content belongs to the person who first created it, but we can give permission for others to use it

Learning profile B4

What is a computer? – Key skills

- Recognise that you can organise files using folders
- Explain what a good file name would look like
- Delete and move files
- Use key parts of a keyboard effectively
- Know how to copy and paste text or images
- Crop an image and apply simple filters
- Use a search engine to find specific information.
- Recognise that school computers are connected together on a network

Presenting Information and Multimedia

- Collect, organise and present information using a range of media
- Design and create digital content for a specific purpose
- Edit digital content to improve it according to feedback



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- Identify the features of a good piece of digital content and apply these in own design
- Explain the benefits of using technology to present information
- Know where to find copyright-free content
- Collaborate with peers using online tools

Data

- Draw conclusions from information stored in a database, chart or table
- Design a questionnaire and collect a range of data on a theme
- Choose appropriate formats to present data to convey information
- Appreciate that you need to use specific software to work with video, images, audio etc.

Programming and Algorithms

- Create a program using a range of events/inputs to control what happens
- Recognise that we can decompose a problem into smaller parts to help solve it
- Explain when to use forever loops and count-controlled loops, and use them in programs
- Recognise selection in a program or algorithm
- Use selection in algorithms and in programs to alter what happens when a condition changes
- Design a program for a purpose
- Decompose into parts and create an algorithm for each one
- Recognise common mistakes in programs and how to correct them

Digital literacy

- Remember and use an individual password
- Recognise what kinds of websites are trustworthy sources of information
- Recognise the benefits and risks of different apps and websites
- Recognise that the media can portray groups of people differently
- Can rate a game or film they have made and explain their rating

Learning profile B5

What is a computer? – Key skills

- Type using fingers on both hands
- Use common keyboard shortcuts



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- Use folders to organise files
- Know how to mute and unmute audio on a computer or tablet
- Recognise that there is more than one search engine, and they may produce different results
- Use a search engine effectively to find information and images
- Know how to search for an application on a computer/tablet

Presenting Information and Multimedia

- Identify and use appropriate hardware and software to fulfil a specific task
- Remix and edit a range of existing and their own media to create content
- Consider the audience when designing and creating digital content
- Recognise the benefits of using technology to collaborate with others
- Identify success criteria for creating digital content for a given purpose and audience
- Evaluate their own content against success criteria and make improvements accordingly

Data

- Explain the difference between data and information
- Appreciate that different programs work with different types of data
- Explain the difference between the Internet and the World Wide Web
- Know the difference between a search engine and a web browser
- Explain the basics of how search engines work, and that different search engines may give different results.
- Perform complex searches for information using advanced settings in search engines
- Recognise the benefits and risks of sharing data online

Programming and Algorithms

- Name a range of sensors in physical systems
- Recognise that different solutions may exist for the same problem
- Predict what will happen in a program or algorithm when the input changes
- Use two-way selection in programs and algorithms
- Recognise variables in a program and what they do
- Create programs including repeat until loops
- Create and use simple variables
- Evaluate a program and make improvements to the code or design
- Create an algorithm for a physical system containing a sensor



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Digital literacy

- Know where to find copyright free images and audio, and why this is important
- Critically evaluate websites for reliability of information and authenticity
- Demonstrate responsible use of an online services and know a range of ways to report concerns.

Learning profile B6

What is a computer? – Key skills

- Type efficiently using both hands
- Use a range of keyboard shortcuts
- Recognise that different devices may have different operating systems
- Organise files effectively using folders and files names
- Recognise common file types and extensions
- Recognise a range of Internet services, World Wide Web, and what they do

Presenting Information and Multimedia

- Select, combine and remix a range of media to create original content
- Consider all steps of the design process when creating content
- Identify the most effective tools to present information for a specific purpose
- Explain the benefits of using technology to collaborate with others
- Evaluate existing digital content in terms of effectiveness and design

Data

- Recognise what a spreadsheet is and what it is used for
- Use simple formulae in a spreadsheet to find out information from a set of data
- Collect data for a purpose and plan out a spreadsheet to present it effectively, using relevant formulae
- Produce graphs from data in a spreadsheet to answer a question
- Recognise that poor-quality data leads to unreliable results
- Analyse and evaluate data and information in a spreadsheet, chart or database

Programming and Algorithms

- Design and program a physical computing system that uses sensors
- Recognise and use procedures (sub-routines) in programs



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- Plan out a program in detail, including task, algorithm, code and execution level
- Explain common errors in programs and how to fix them
- Use nested selection statements in a program or algorithm effectively
- Combine a variable with relational operators (< = >) to determine when a program changes
- Recognise key concepts (sequence, selection, repetition and variables) in a range of languages and context

Digital literacy

- Explain what makes a strong password and why this is important at school and in the wider world
- Explain how algorithms are used to track online activities with a view to targeting advertising and information
- Know that there are laws around the purchase of games; the production, sending and storage of images; what is written online; and around online gambling.