

Manor Primary School
Computing Year 4 Authoring (Strand Create)

Overview of the Learning:

In this unit children will use a variety of different software to create digital content, (multi-media presentation) understanding some of the differences between them. They select and use software to create non-linear content for specific audiences and objectives.

Core Aims

To equip pupils to use computational thinking and creativity to understand and change the world.

To make links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.

To ensure pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

To equip pupils are use information technology to create programs, systems and a range of content.

To ensure that pupils become digitally literate

To be able to use, and express themselves and develop their ideas through information and communication technology at a level suitable for the future workplace and as active participants in a digital world.

Pupils should be taught

To select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

To use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

National Curriculum Guidance

2.v Pupils should be taught to use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

2.vi Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

2.vii Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Expectations

- To understand that computer networks are structured to enable us to save and share digital resources. Save and organise work.
- To understand that digital tools can be used to improve the accuracy and efficiency of word-based texts.
- To understand that digital tools can support clarity and engage readers of word-based texts. Use tools to improve texts.
- To understand digital objects need to be formatted and organised for specific purposes. Use tools to control format and organise.

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- To explore effectiveness of different multimedia in communicating a message or idea and providing options for the audience. To know multimedia texts need to be planned to accomplish a
- given goal.
- Plan a short multimedia text.
- To know multimedia texts can combine resources to support the audience. Use their plan to produce a digital multimedia text.
- To understand multimedia software includes various tools and options. Investigate and compare these in different applications.
- To review and evaluate their work, discussing the choices they have made.
- Use appropriate file-naming conventions and understandable
- older structure to save, organise and retrieve their work.
- To know that some digital resources may not be appropriate. Understand what to do if such materials are accessed

Manor Primary School Year 4
Accuracy Counts (Strand Digital Research & Info...Info...)

Overview of the Learning:

In this unit children will investigate the concept of computer networks including the internet and the services offered on it. They use and compare search engines on the World Wide Web, selecting and evaluating with increasing discernment and respecting copyright when creating their own content. They use spreadsheet software to create graphs and to explore number patterns.

Core Aims

To equip pupils to use computational thinking and creativity to understand and change the world.
 To make links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.
 To ensure pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
 To equip pupils are use information technology to create programs, systems and a range of content.

Pupils should be taught

- design, write and debug programs that accomplish specific goals, including controlling or simulating
- physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input
- and output

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To ensure that pupils become digitally literate
To be able to use, and express themselves and develop their ideas through information and communication technology at a level suitable for the future workplace and as active participants in a digital world.

- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

National Curriculum Guidance

- 2.iv understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- 2.v use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 2.vi select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- 2.vii use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Expectations

- To understand that the internet is a global system of linked computer networks which hosts many different services.
- To know key words are central to digital and non-digital research.
- To understand the World Wide Web is an internet service, linking websites accessed by web browsers and search engines.
- To understand search engines locate information rapidly, but rank the results. Understand results may not be relevant or appropriate.
- To understand the need to use search technologies effectively. Use a range of digital research approaches.
- To be aware that digital information can be inaccurate, biased or unsafe. Check results, distinguish between fact and opinion 📄 ➡➡
- To understand we need the owner's permission to use material found on the internet and that sources must be acknowledged. 📄
- To understand the need to process and edit the information from searches. Select, edit and refine information for a given audience.
- To understand data is held about individuals on the internet and the need to keep data secure. Build personal eSafety rules. 📄

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- To understand spreadsheet software supports data recording and graphs creation. Use spreadsheets for investigation.
- To understand that spreadsheets allow us to explore number and number patterns. Enter numbers and use simple formulae.
- To know information exists in different forms and representation can affect understanding or be misleading. Compare different ways. ➤ ➤
- *To review and evaluate their work, discussing the choices they have made and checking for accuracy.*
- *To understand the school's eSafety rules and to know what to do in the event of an incident at home or school.* ⚠
- *Recognise acceptable/unacceptable behaviour using technology* ⚠
- *Use appropriate file-naming conventions and an understandable folder structure to save, organise and retrieve their work.*

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Computing Year 4
Programming & Games (eWorlds)

Overview of the Learning:

In this unit children will explore simulations, explaining how these are structured and some of the programming needed. They decompose tasks and create and debug algorithms to solve them, understanding how algorithms support the programming process. They write programs to achieve specific objectives, understanding and using sequence, selection and repetition. They test, debug and refine their programs

Core Aims

To equip pupils to use computational thinking and creativity to understand and change the world.
To make links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.
To ensure pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
To equip pupils are use information technology to create programs, systems and a range of content.
To ensure that pupils become digitally literate

Pupils should be taught

- design, write and debug programs that accomplish specific goals, including controlling or simulating
- physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input
- and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors
- in algorithms and programs

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To be able to use, and express themselves and develop their ideas through information and communication technology at a level suitable for the future workplace and as active participants in a digital world.

National Curriculum Guidance

2.i Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts

2.ii Use sequence, selection, and repetition in programs; work with variables and various forms of input and output

2.iii Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

2.vi Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

2.vii Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Expectations

- To understand that simulations provide environments which mimic situations in the real world.
- To understand that we use logical reasoning within simulations to support successful outcomes. Compare simulations.
- To understand that simulations are programmed to allow user choice to change outcomes. Show this in a simulation diagram.
- To understand that algorithms enable us to design the steps of a process before writing a computer program.
- To understand that a program is an instruction sequence written in a programming language designed to perform a specific task.
- To know problems/tasks can be solved efficiently by decomposition. Use this to build programming solutions.
- To know instructions need to be correctly sequenced to achieve specific objectives; know to break program into smaller parts.
- To know that programs can be refined to improve both accuracy and efficiency. Revisit and refine existing programs.
- To understand instruction sets can be grouped in procedures.
- To understand that procedures can call other procedures.
- To know that programming languages are needed to create games and simulations of real and virtual environments.

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- To understand automated devices can use sensors to respond to events or conditions and that these are inputs to the programs
- To understand the programming process of carrying out commands depending on the answer to a question is known as selection.
- *Use appropriate file-naming conventions and understandable folder structures to save, organise and retrieve their work.*
- *To be aware that many online activities include chat facilities; use with care, protect identity; only talk to those they know.*
- *To review and evaluate their work, discussing the choices they have made and checking for accuracy.*

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