

Manor Primary School
Computing Year 5
Morphing Image (Strand Create)

<p>Overview of the Learning: In this unit children will explore 3D drawing tools and consider how these are used in the wider world. They use storyboards to create live film and animations for specific audiences. They demonstrate their understanding of copyright and ownership, crediting the sources of materials they use.</p>	
<p>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</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> ● 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 ● use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
<p>National Curriculum Guidance 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.</p>	
<p>Expectations To understand 3D graphical modelling enables us to explore objects which may not yet exist or could be difficult to observe . To understand digital graphical tools can support the creation, exploration and development of 3D models. To analyse and evaluate digital films and animations, considering how they are used to inform, persuade and entertain audiences.</p>	

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To understand digital film and animation can be stored, shared and published locally and online.

To understand the stages in producing a live film. Plan a film for a specific purpose and audience. Create and review their film.

To understand the need to test and review their work. Present a film they have created to the selected audience. Evaluate.

To understand differences between animation and live filming.

To explore animation tools. Discuss safe and appropriate use.

To develop ways of using animation to meet the needs of specific audiences. Create, share and evaluate an animation.

To organise their work confidently in agreed locations, using appropriate file-naming conventions and folder structures.

To save drafts of their work and use these to support critical review in which they evaluate and improve their work.

To demonstrate their understanding of the copyright, ownership and plagiarism rules; apply these across their computing work.

To understand the need to keep electronic and other data secure; protect personal information online; encourage eSafe practice.

Manor Primary School
Computing Year 5 Robotics & Systems (eWorlds)

Overview of the Learning:
 In this unit children will investigate automated systems in the wider world and consider the programming instructions which could control them. They create and debug algorithms and then use different programming languages to write the related programs. They program physical devices, controlling inputs and outputs. They use sequence, selection, repetition and variables in their programs

<p>Core Aims</p> <p>To equip pupils to use computational thinking and creativity to understand and change the world.</p> <p>To make links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.</p> <p>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.</p> <p>To equip pupils are use information technology to create programs, systems and a range of content.</p> <p>To ensure that pupils become digitally literate</p>	<p>Pupils should be taught</p> <ul style="list-style-type: none"> ● 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 identify and research automatic control systems in the outside world. Use decomposition and algorithms to explain it.
- To review the need for efficient program design; use repeat and procedures to improve efficiency; predict and test outcomes.
- To understand a variable is used in computer programming to stand for a value which will be input when the program is run.
- To understand programming languages can control the screen environment; share how this is used in various applications
- To use sequence, selection and repetition in programming an onscreen game or interactive activity.
- To understand it is important to add comments to programs to document them and aid understanding and future changes.
- To know we can use programming to control outputs depending on the signals received from inputs (including sensors).
- To know many control systems are managed through instruction sequences and use input sensors and output devices to respond to different situations and varying environmental conditions.
- To know many control systems in the outside world are managed through instruction sequences; program inputs and outputs.
- *To understand of sequences can be refined to improve efficiency and accuracy. Refine programs; add comments.*
- *To understand the need to save drafts and act on critical review to evaluate and improve their work.*
- *To organise their work confidently in agreed locations, using appropriate file-naming conventions and folder structures.*

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- To understand need to keep electronic and other data secure and protect personal data online; encourage others to be eSa^{fe}.

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Computing Year 6

Staying Connected (Strand Digital Research & Digital Communication)

Overview of the Learning:

In this unit children will use blogs for collaborative projects in school, uploading different types of digital content, while checking copyright and crediting sources. They work as a class to build a wiki around a class topic, taking editorial responsibility for their work. They know the school's eSa^fety rules and encourage other children to keep sa^fe online.

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.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 analyse and evaluate online digital communication and collaboration tools, understanding how they are used in our lives.
- To be safe, respectful and responsible users of online technologies. Review eSafe approaches to using such spaces.
- To understand that personal information is shared online without the owners being aware that they have given permission.
- To understand the need to organise/ad just language/style of digital communications, according to context, audience, technology.
- To understand a blog is an online space, created by an individual, with regular entries and providing opportunities for comment.
- To understand how blogs can support learning and sharing of ideas and may include a range of media. Create and comment.
- To understand that there are complex copyright rules for digital resources such as word-based texts, images, sound and film.
- To understand a wiki is a tool for organising collaborative, validating and expanding shared information.
- To know that information can vary in accuracy, bias and viewpoint, and be unhelpful, irrelevant and misleading.
- *To organise their work confidently in agreed locations, using appropriate file-naming conventions and folder structures.*
- *To understand and use security settings and features offered in online environments, to protect privacy and safety.*
- *To understand all online users have the right to be respected. Obtain permission before using/sharing online materials.*
- *To evaluate the effectiveness, risks and benefits of digital communication and collaboration tools used at home and school.*

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- *To identify ways to report concerns about content and contact.*
- *To be proactive in keeping electronic/other data secure, protecting personal information online and encouraging others to be eSafe.*



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