

# Riverside Junior School

Nurture : Inspire : Challenge to develop Creativity : Love of Learning : Excellence

## Overview of Approach

*Use bold text throughout this document to indicate those aspects which are required in order to comply with the new National Curriculum*

The core principles of the computing curriculum.

**The four main aspects of the new computing curriculum underpin all teaching and learning in Riverside Junior School.**

1. Programming, coding and control.
2. How computers work.
3. Using technology effectively.
4. E-Safety.

### How we will ensure that the approach taken to *subject*:

- ┌ **Reflects and reinforces Riverside's vision and values**
- ┌ **Supports the goal of ensuring outstanding learning for all**
- ┌ **Delete if core subject - Appropriately optimises opportunities to develop numeracy and literacy**

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.

The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.

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Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – 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.

(Computing Programmes of study document 2014)

## SCHEME OF WORK SUBJECT OVERVIEW

	Autumn	Spring	Summer
Year 3	<p><b>How computers work</b></p> <ul style="list-style-type: none"> <li>┌ Understand that computing enables access to a wider range of information and tools to help find specific information.</li> <li>┌ To identify how different web pages are organised and why.</li> <li>┌ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul> <p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>┌ Recognise the importance of keeping information private.</li> <li>┌ Understand how their actions online can affect others or themselves.</li> <li>┌ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>┌ Understand how the internet stores information.</li> <li>┌ Understand that not all information found on the internet is factually correct.</li> <li>┌ Understand the importance of</li> </ul>	<p><b>Using technology effectively</b></p> <ul style="list-style-type: none"> <li>┌ Understand how computers can allow easy creation, manipulation and change.</li> <li>┌ Use authoring tools independently to create their own content and to add effects for purposes such as changing the font size, background colour, transitions, adding sound, changing layout etc...</li> <li>┌ Use images or videos for a range of purposes to enhance an outcome. (Teacher will need to support pupils)</li> <li>┌ Continue to work on understanding how to save and retrieve work on multiply devices to build upon activities overtime.</li> <li>┌ Create a high quality outcome for a targeted audience.</li> </ul>	<p><b>Programming, coding and control</b></p> <ul style="list-style-type: none"> <li>┌ Recognise basic language such as design, write and debug.</li> <li>┌ Apply knowledge of creating basic sequence of instructions for a programmable device on screen and a physical device.</li> <li>┌ Understand how different variables can be changed and the effect this has on an outcome.</li> <li>┌ Understand the need for repetition when programming.</li> <li>┌ Understand how to debug and problem solve to improve an outcome.</li> <li>┌ Make logical predictions for outcomes based on understanding of selections, specific goals and variables.</li> <li>┌ With support, consider their audience when developing a project.</li> </ul>

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	<p>word/phrase choices when searching online.</p> <ul style="list-style-type: none"> <li>[ To know how to be secure using of the internet.</li> </ul>		
<b>Year 4</b>	<p><b>How computers work</b></p> <ul style="list-style-type: none"> <li>[ Understand that computing enables access to a wider range of information and tools to help find specific information.</li> <li>[ To identify how different web pages are organised and why.</li> <li>[ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul> <p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>[ Recognise the importance of keeping information private.</li> <li>[ Understand how their actions online can affect others or themselves.</li> <li>[ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>[ Understand how the internet stores information.</li> <li>[ Understand that not all information found on the internet is factually correct.</li> <li>[ Understand the importance of word/phrase choices when searching online.</li> <li>[ To know how to be secure using of the internet.</li> </ul>	<p><b>Using technology effectively</b></p> <ul style="list-style-type: none"> <li>[ Continue to develop an understanding of how computers can allow easy creation, manipulation and change.</li> <li>[ Understand which authoring tools will be the most effective for their outcome such as backgrounds, transitions, voice recordings, changing layout, delays etc...</li> <li>[ Understand how to organise and collate materials appropriately.</li> <li>[ Using independently sourced images or captured images/videos or creating images on a computer device for a range of purposes to enhance an outcome.</li> <li>[ Understanding how to organise and input required materials.</li> <li>[ Create a high quality outcome for a targeted audience.</li> </ul>	<p><b>Programming, coding and control</b></p> <ul style="list-style-type: none"> <li>[ Continue to develop programing language such as design, write, debug, algorithms and detect etc...</li> <li>[ Apply knowledge of creating more complex sequence of instructions (algorithm) for a programmable device on screen and a physical device.</li> <li>[ Understand how different variables change an outcome and why this is important.</li> <li>[ Understand the need for repetition when programming and why this helps with.</li> <li>[ Understand how to debug and problem solve to improve an outcome.</li> <li>[ Make logical predictions for outcomes based on understanding of selections, specific goals and variables.</li> <li>[ Consider their audience when developing a project.</li> </ul>
<b>Year 5</b>	<p><b>How computers work</b></p> <ul style="list-style-type: none"> <li>[ Understand that computing enables access to a wider range of information</li> </ul>	<p><b>Programming, coding and control</b></p> <ul style="list-style-type: none"> <li>[ Recognises that software relies on codes/programming to run and that a</li> </ul>	<p><b>Using technology effectively</b></p> <ul style="list-style-type: none"> <li>[ To independently identify, insert and use manipulating features.</li> </ul>

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	<p>and tools to help find/develop specific information.</p> <ul style="list-style-type: none"> <li>[ To identify how different web pages are organised and why.</li> <li>[ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul> <p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>[ Recognise the importance of keeping information private.</li> <li>[ Understand how their actions online can affect others or themselves.</li> <li>[ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>[ Understand how the internet stores information and the difficulties faced when trying retrieve shared personal information.</li> <li>[ Understand that individual access to the internet is worldwide and the effect this has on an individual, personal data and privacy.</li> <li>[ Understand that not all information found on the internet is factually correct.</li> <li>[ Understand the importance of word/phrase choices when searching online.</li> <li>[ To know how to be secure using of the internet on all devices.</li> </ul>	<p>range of different coding languages exist.</p> <ul style="list-style-type: none"> <li>[ Understand how to use a range of assisted programming software to plan, design and debug a simple platform game, which interacts with external controllers (e.g. keyboard and/or mouse/makeymakey etc...).</li> <li>[ Understand how to control the input of different variables so the output is enhanced for both an on screen programming device and a physical device (this can be linked or separate).</li> <li>[ Understand how to detect (debug) and correct errors to enable a successfully outcome.</li> <li>[ Use logical reasoning for outcomes based on understanding of selections, specific goals and variables.</li> <li>[ Consider their wider audience when developing a project.</li> </ul>	<ul style="list-style-type: none"> <li>[ To select relevant tools which can help achieve a specific aim and justify these decisions to others.</li> <li>[ Continue to work on organising and collate materials appropriately.</li> <li>[ To independently take photographs and record videos taking into account the audience and/or purpose for the image/video.</li> <li>[ To use image editing and refining tools to create more complex images/video outcomes.</li> <li>[ Understanding how to organise and input required materials to gain an outcome that is consistent throughout.</li> <li>[ Create and present a high quality outcome for a purpose/targeted audience.</li> </ul>
<p><b>Year 6</b></p>	<p><b>How computers work</b></p> <ul style="list-style-type: none"> <li>[ Understand that computing enables access to a wider range of information and tools to help find/develop specific information.</li> <li>[ To identify how different web pages are organised and why.</li> <li>[ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul>	<p><b>Programming, coding and control</b></p> <ul style="list-style-type: none"> <li>[ Recognises that software relies on codes/programming to run and that a range of different coding languages exist.</li> <li>[ Explore different programmable devices to illustrate coding/programming runs in all software used.</li> <li>[ Understand how to use a range of assisted programming software to plan,</li> </ul>	<p><b>Using technology effectively</b></p> <ul style="list-style-type: none"> <li>[ Continue to independently identify, insert and use complex manipulating features.</li> <li>[ To select relevant tools which can help achieve a specific aim and justify these decisions to others.</li> <li>[ To work on organising and collate complex materials appropriately.</li> <li>[ Independently capture photographs and</li> </ul>

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	<p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>[ Recognise the importance of keeping information private.</li> <li>[ Understand how their actions online can affect others or themselves.</li> <li>[ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>[ Understand how the internet stores information and the difficulties faced when trying retrieve shared personal information.</li> <li>[ Understand that individual access to the internet is worldwide and the effect this has on an individual, personal data and privacy.</li> <li>[ Understand that not all information found on the internet is factually correct.</li> <li>[ Understand the importance of word/phrase choices when searching online.</li> <li>[ To know how to be secure using of the internet on all devices.</li> </ul>	<p>design and debug a complex platform game, which interacts with external controllers (e.g. keyboard and/or mouse/makeymakey etc...).</p> <ul style="list-style-type: none"> <li>[ Understand how to control the input of different variables so the output is enhanced for both an on screen programming device and a physical device (this can be linked or separate).</li> <li>[ To control a device using text based programing, including writing complex written algorithms which involve sensors.</li> <li>[ Understand how to detect (debug) and correct errors to enable a successfully outcome.</li> <li>[ Use logical reasoning for outcomes based on understanding of selections, specific goals and variables.</li> <li>[ Consider their wider audience when developing a project.</li> </ul>	<p>record videos taking into account the audience and/or purpose for the image/video.</p> <ul style="list-style-type: none"> <li>[ To use image editing and refining tools to create more complex images/video outcomes e.g trimming, unwanted silencing etc...</li> <li>[ Compare and contrast different image creation and editing tools across a range of platforms.</li> <li>[ Understanding how to organise and input required materials to gain an outcome that is consistent throughout.</li> <li>[ Create and present a high quality outcome for a purpose/targeted audience.</li> <li>[ Create a web based application for a computer device with consideration for the audience- containing information about a topic, trip, and the school or to support work in other areas of the curriculum.</li> </ul>
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## Scheme/Block of Work (medium term plan)

Year 3 Computing curriculum				
Strand	Programme of study Requirements	Key skills	Resources	Links to other areas of the curriculum.
KS2 Programming, coding and control.	<p>- <b>Design, write and debug programs</b> that accomplish specific goals, including controlling or simulating physical systems; <b>solve problems</b> by decomposing them into smaller parts.</p> <p>- <b>Use sequence, selection, and repetition</b> in programs; work with variables and various forms of <b>input and output</b>.</p> <p>- Use logical reasoning to explain how some simple <b>algorithms</b> work and to <b>detect and correct errors</b> in algorithms and programs.</p>	<ul style="list-style-type: none"> <li>┌ Recognise basic language such as design, write and debug.</li> <li>┌ Apply knowledge of creating basic sequence of instructions for a programmable device on screen and a physical device.</li> <li>┌ Understand how different variables can be changed and the effect this has on an outcome.</li> <li>┌ Understand the need for repetition when programming.</li> <li>┌ Understand how to debug and problem solve to improve an outcome.</li> <li>┌ Make logical predictions for outcomes based on understanding of selections, specific goals and variables.</li> <li>┌ With support, consider their audience when developing a project.</li> </ul>	Scratch, WeDo lego	Science- The Lego WeDo has 4 science activities/works hops you can do as part of an investigation. D.T construct for purpose and affect.
KS2 How computers work	<p>- Understand <b>computer networks</b> including the internet; how they can provide multiple services, such as World Wide Web.</p> <p>- Understand the opportunities (networks) offer to <b>communication and collaboration</b>.</p>	<ul style="list-style-type: none"> <li>┌ Understand that computing enables access to a wider range of information and tools to help find specific information.</li> <li>┌ To identify how different web pages are organised and why.</li> <li>┌ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul>	This will be an ongoing discussion throughout activities being complete.	

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KS2 Using technology effectively	- <b>Select, use and combine</b> a variety of software (including internet services) on a range of digital devices to design and <b>create a range of programs, systems and content</b> that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	<ul style="list-style-type: none"> <li>[ Understand how computers can allow easy creation, manipulation and change.</li> <li>[ Use authoring tools independently to create their own content and to add effects for purposes such as changing the font size, background colour, transitions, adding sound, changing layout etc...</li> <li>[ Use images or videos for a range of purposes to enhance an outcome. (Teacher will need to support pupils)</li> <li>[ Continue to work on understanding how to save and retrieve work on multiply devices to build upon activities overtime.</li> <li>[ Create a high quality outcome for a targeted audience.</li> </ul>	<a href="http://photosynth.net/create">http://photosynth.net/create</a> Use this to create 3D images of an object. iMovie, I can animate, book creator etc... <b>Skype-Dropbox-</b>	Electronic books which can be published. Create news reports and interview of characters. Design an alternative ending or a prequel to a story etc...
KS2 E-Safety	- Use search <b>technologies effectively</b> , appreciate how results are selected and ranked, and be discerning in evaluating digital content. - Use technology <b>safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify</b> a range of ways to report concerns about content and contact.	<ul style="list-style-type: none"> <li>[ Recognise the importance of keeping information private.</li> <li>[ Understand how their actions online can affect others or themselves.</li> <li>[ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>[ Understand how the internet stores information.</li> <li>[ Understand that not all information found on the internet is factually correct.</li> <li>[ Understand the importance of word/phrase choices when searching online.</li> <li>[ To know how to be secure using of the internet.</li> </ul>	This will be an ongoing discussion throughout activities being complete and during termly assemblies.  CEOP website has lots of resources to use for e-safety.	
Assessments	<u>Below expectations</u>	<u>Meeting expectations</u>	<u>Above expectations</u>	

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Name of children				
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Year 4 Computing curriculum

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Strand	Programme of study Requirements	Key skills	Resources	Links to other areas of the curriculum.
KS2 Programming, coding and control.	<p>- <b>Design, write and debug programs</b> that accomplish specific goals, including controlling or simulating physical systems; <b>solve problems</b> by decomposing them into smaller parts.</p> <p>- <b>Use sequence, selection, and repetition</b> in programs; work with variables and various forms of <b>input and output</b>.</p> <p>- Use logical reasoning to explain how some simple <b>algorithms</b> work and to <b>detect and correct errors</b> in algorithms and programs.</p>	<ul style="list-style-type: none"> <li>[ Continue to develop programming language such as design, write, debug, algorithms and detect etc...</li> <li>[ Apply knowledge of creating more complex sequence of instructions (algorithm) for a programmable device on screen and a physical device.</li> <li>[ Understand how different variables change an outcome and why this is important.</li> <li>[ Understand the need for repetition when programming and why this helps with.</li> <li>[ Understand how to debug and problem solve to improve an outcome.</li> <li>[ Make logical predictions for outcomes based on understanding of selections, specific goals and variables.</li> <li>[ Consider their audience when developing a project.</li> </ul>	Scratch, WeDo lego	Science- The Lego WeDo has 4 science activities/workshops you can do as part of an investigation. D.T construct for purpose and affect.
KS2 How computers work	<p>- Understand <b>computer networks</b> including the internet; how they can provide multiple services, such as World Wide Web.</p> <p>- Understand the opportunities (networks) offer to <b>communication and collaboration</b>.</p>	<ul style="list-style-type: none"> <li>[ Understand that computing enables access to a wider range of information and tools to help find specific information.</li> <li>[ To identify how different web pages are organised and why.</li> <li>[ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul>	This will be an ongoing discussion throughout activities being complete.	
KS2 Using technology effectively	<p>- <b>Select, use and combine</b> a variety of software (including internet services) on a range of digital devices to design and <b>create a range of programs, systems and content</b> that accomplish given goals,</p>	<ul style="list-style-type: none"> <li>[ Continue to develop an understanding of how computers can allow easy creation, manipulation and change.</li> <li>[ Understand which authoring tools will be the most effective for their outcome such as backgrounds, transitions, voice recordings, changing layout, delays etc...</li> <li>[ Understand how to organise and collate materials</li> </ul>	<p><a href="http://photosynth.net/create">http://photosynth.net/create</a> Use this to create 3D images of an object.</p> <p>iMovie, I can animate, book creator etc...</p> <p><b>Skype-</b></p>	Electronic books which can be published. Create news reports and interview of characters.

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	including collecting, analysing, evaluating and presenting data and information.	<ul style="list-style-type: none"> <li>⌈ appropriately.</li> <li>⌈ Using independently sourced images or captured images/videos or creating images on a computer device for a range of purposes to enhance an outcome.</li> <li>⌈ Understanding how to organise and input required materials.</li> <li>⌈ Create a high quality outcome for a targeted audience.</li> </ul>	<b>Dropbox-</b>	Design an alternative ending or a prequel to a story etc...
KS2 E-Safety	<ul style="list-style-type: none"> <li>- Use search <b>technologies effectively</b>, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</li> <li>- Use technology <b>safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify</b> a range of ways to report concerns about content and contact.</li> </ul>	<ul style="list-style-type: none"> <li>⌈ Recognise the importance of keeping information private.</li> <li>⌈ Understand how their actions online can affect others or themselves.</li> <li>⌈ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>⌈ Understand how the internet stores information.</li> <li>⌈ Understand that not all information found on the internet is factually correct.</li> <li>⌈ Understand the importance of word/phrase choices when searching online.</li> <li>⌈ To know how to be secure using of the internet.</li> </ul>	<p>This will be an ongoing discussion throughout activities being complete and during termly assemblies.</p> <p>CEOP website has lots of resources to use for e-safety.</p>	
Assessments	<u>Below expectations</u>	<u>Meeting expectations</u>	<u>Above expectations</u>	
Name of children				

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Year 5 Computing curriculum				
Strand	Programme of study Requirements	Key skills	Resources	Links to other areas of the curriculum.

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<p>KS2 Programmin g, coding and control.</p>	<p>- <b>Design, write and debug programs</b> that accomplish specific goals, including controlling or simulating physical systems; <b>solve problems</b> by decomposing them into smaller parts. - <b>Use sequence, selection, and repetition</b> in programs; work with variables and various forms of <b>input and output</b>. - Use logical reasoning to explain how some simple <b>algorithms</b> work and to <b>detect and correct errors</b> in algorithms and programs.</p>	<ul style="list-style-type: none"> <li>[ Recognises that software relies on codes/programming to run and that a range of different coding languages exist.</li> <li>[ Understand how to use a range of assisted programing software to plan, design and debug a simple platform game, which interacts with external controllers (e.g. keyboard and/or mouse/makeymakey etc...).</li> <li>[ Understand how to control the input of different variables so the output is enhanced for both an on screen programming device and a physical device (this can be linked or separate).</li> <li>[ Understand how to detect (debug) and correct errors to enable a successfully outcome.</li> <li>[ Use logical reasoning for outcomes based on understanding of selections, specific goals and variables.</li> <li>[ Consider their wider audience when developing a project.</li> </ul>	<p>Kudo can be used to create a platform game. It is a free Microsoft product. Lego Mindstorm can be used for programming a physical device.</p>	<p>The Lego Mindstorm sets have various activities/worksh ops you can teach that link to maths, science, literacy and DT. D.T construct for purpose and affect.</p>
<p>KS2 How computers work</p>	<p>- Understand <b>computer networks</b> including the internet; how they can provide multiple services, such as World Wide Web. - Understand the opportunities (networks) offer to <b>communication and collaboration</b>.</p>	<ul style="list-style-type: none"> <li>[ Understand that computing enables access to a wider range of information and tools to help find/develop specific information.</li> <li>[ To identify how different web pages are organised and why.</li> <li>[ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul>	<p>This will be an ongoing discussion throughout activities being complete.</p>	
<p>KS2 Using technology effectively</p>	<p>- <b>Select, use and combine</b> a variety of software (including internet services) on a range of digital devices to design and <b>create a range of programs, systems and content</b> that accomplish given goals, including collecting,</p>	<ul style="list-style-type: none"> <li>[ To independently identify, insert and use manipulating features.</li> <li>[ To select relevant tools which can help achieve a specific aim and justify these decisions to others.</li> <li>[ Continue to work on organising and collate materials appropriately.</li> <li>[ To independently take photographs and record videos taking into account the audience and/or purpose for the image/video.</li> </ul>	<p>iMovie, I can animate, book creator, Creating a Wiki page, Sketchup <b>Skype</b>  <b>Dropbox</b></p>	<p>Electronic books which can be published. Create news reports and interview of characters. Design an</p>

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	analysing, evaluating and presenting data and information.	<ul style="list-style-type: none"> <li>[ To use image editing and refining tools to create more complex images/video outcomes.</li> <li>[ Understanding how to organise and input required materials to gain an outcome that is consistent throughout.</li> <li>[ Create and present a high quality outcome for a purpose/targeted audience.</li> </ul>		alternative ending or a prequel to a story etc...
KS2 E-Safety	<p>- Use search <b>technologies effectively</b>, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>- Use technology <b>safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify</b> a range of ways to report concerns about content and contact.</p>	<ul style="list-style-type: none"> <li>[ Recognise the importance of keeping information private.</li> <li>[ Understand how their actions online can affect others or themselves.</li> <li>[ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>[ Understand how the internet stores information and the difficulties faced when trying retrieve shared personal information.</li> <li>[ Understand that individual access to the internet is worldwide and the effect this has on an individual, personal data and privacy.</li> <li>[ Understand that not all information found on the internet is factually correct.</li> <li>[ Understand the importance of word/phrase choices when searching online.</li> <li>[ To know how to be secure using of the internet on all devices.</li> </ul>	<p>This will be an ongoing discussion throughout activities being complete and during termly assemblies.</p> <p>CEOP website has lots of resources to use for e-safety.</p>	
Assessments	<u>Below expectations</u>	<u>Meeting expectations</u>	<u>Above expectations</u>	
Name of children				

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Year 6 Computing curriculum				
Strand	Programme of study Requirements	Key skills	Resources	Links to other areas of the curriculum.
KS2 Programming, coding and control.	<ul style="list-style-type: none"> <li>- <b>Design, write and debug programs</b> that accomplish specific goals, including controlling or simulating physical systems; <b>solve problems</b> by decomposing them into smaller parts.</li> <li>- <b>Use sequence, selection,</b></li> </ul>	<ul style="list-style-type: none"> <li>┌ Recognises that software relies on codes/programming to run and that a range of different coding languages exist.</li> <li>┌ Explore different programmable devices to illustrate coding/programming runs in all software used.</li> <li>┌ Understand how to use a range of assisted</li> </ul>	<p>Kudo can be used to create a platform game. It is a free Microsoft product. Lego Mindstorm can be used for programming a physical device. RaspberryPi</p>	<p>The Lego Mindstorm sets have various activities/workshops you can teach that link to</p>

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	<p><b>and repetition</b> in programs; work with variables and various forms of <b>input and output</b>.</p> <p>- Use logical reasoning to explain how some simple <b>algorithms</b> work and to <b>detect and correct errors</b> in algorithms and programs.</p>	<p>programming software to plan, design and debug a complex platform game, which interacts with external controllers (e.g. keyboard and/or mouse/makeymakey etc...).</p> <ul style="list-style-type: none"> <li>┌ Understand how to control the input of different variables so the output is enhanced for both an on screen programming device and a physical device (this can be linked or separate).</li> <li>┌ To control a device using text based programming, including writing complex written algorithms which involve sensors.</li> <li>┌ Understand how to detect (debug) and correct errors to enable a successfully outcome.</li> <li>┌ Use logical reasoning for outcomes based on understanding of selections, specific goals and variables.</li> <li>┌ Consider their wider audience when developing a project.</li> </ul>		<p>maths, science, literacy and DT. D.T construct for purpose and affect.</p>
<p>KS2 How computers work</p>	<p>- Understand <b>computer networks</b> including the internet; how they can provide multiple services, such as World Wide Web.</p> <p>- Understand the opportunities (networks) offer to <b>communication and collaboration</b>.</p>	<ul style="list-style-type: none"> <li>┌ Understand that computing enables access to a wider range of information and tools to help find/develop specific information.</li> <li>┌ To identify how different web pages are organised and why.</li> <li>┌ Recognise the importance of networks and how they can contribute to everyday life.</li> </ul>	<p>This will be an ongoing discussion throughout activities being complete.</p>	
<p>KS2 Using technology effectively</p>	<p>- <b>Select, use and combine</b> a variety of software (including internet services) on a range of digital devices to design and <b>create a range of programs, systems and content</b> that accomplish given goals, including collecting, analysing, evaluating and presenting data and</p>	<ul style="list-style-type: none"> <li>┌ Continue to independently identify, insert and use complex manipulating features.</li> <li>┌ To select relevant tools which can help achieve a specific aim and justify these decisions to others.</li> <li>┌ To work on organising and collate complex materials appropriately.</li> <li>┌ Independently capture photographs and record videos taking into account the audience and/or purpose for the image/video.</li> <li>┌ To use image editing and refining tools to</li> </ul>	<p>iMovie, I can animate, book creator, Creating a Wiki page, Appshed</p> <p><b>Skype-</b> <b>Dropbox-</b></p>	<p>Electronic books which can be published. Create news reports and interview of characters. Design an alternative</p>

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	information.	<p>create more complex images/video outcomes e.g trimming, unwanted silencing etc...</p> <ul style="list-style-type: none"> <li>┌ Compare and contrast different image creation and editing tools across a range of platforms.</li> <li>┌ Understanding how to organise and input required materials to gain an outcome that is consistent throughout.</li> <li>┌ Create and present a high quality outcome for a purpose/targeted audience.</li> <li>┌ Create a web based application for a computer device with consideration for the audience- containing information about a topic, trip, the school or to support work in other areas of the curriculum.</li> </ul>		ending or a prequel to a story etc...
KS2 E-Safety	<p>- Use search <b>technologies effectively</b>, appreciate how results are selected and ranked, and be discerning in evaluating digital content.</p> <p>- Use technology <b>safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify</b> a range of ways to report concerns about content and contact.</p>	<ul style="list-style-type: none"> <li>┌ Recognise the importance of keeping information private.</li> <li>┌ Understand how their actions online can affect others or themselves.</li> <li>┌ Be aware of where to go or who to talk to if one feels vulnerable.</li> <li>┌ Understand how the internet stores information and the difficulties faced when trying retrieve shared personal information.</li> <li>┌ Understand that individual access to the internet is worldwide and the effect this has on an individual, personal data and privacy.</li> <li>┌ Understand that not all information found on the internet is factually correct.</li> <li>┌ Understand the importance of word/phrase choices when searching online.</li> <li>┌ To know how to be secure using of the internet on all devices.</li> </ul>	<p>This will be an ongoing discussion throughout activities being complete and during termly assemblies.</p> <p>CEOP website has lots of resources to use for e-safety.</p>	
Assessments	<u>Below expectations</u>	<u>Meeting expectations</u>	<u>Above expectations</u>	



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Name of children				
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## Glossary

**Algorithm-** an unambiguous procedure or precise step by step guide to solve a problem or achieve a particular objective.

**Computer Networks-** the computers and the connecting hardware (wifi access points, cables, fibres, switches and routers) that make it possible to transfer data using an agreed method.

**Control-** using computers to move or otherwise change 'physical' systems. The computer can be hidden inside the system or connected to it.

**Data-** a structured set of numbers, representing digitised text, images, sound or video, which can be processed or transmitted by a computer.

**Debug-** to detect and correct the errors in a computer program.

**Digital content-** any media created, edited or viewed on a computer, such as text (including the hypertext of a web page), images, sound, video (including animation), or virtual environments, and combinations of these (i.e. multimedia).

**Input-** data provided to a computer system, such as via a keyboard, mouse, microphone, camera or physical sensors.

**Output-** the information produced by a computer system for its user, typically on a screen, through speakers or on a printer, but possibly through the control of motors in physical systems.

**Program-** a stored set of instructions encoded in a language understood by the computer that does some form of computation, processing input and/or stored data to generate output.

**Repetition-** a programming construct in which one or more instructions are repeated, perhaps a certain number of times, until a condition is satisfied or until the program is stopped.

**Selection-** a programming construct in which the instructions that are executed are determined by whether a particular condition is met.

**Simulation-** using a computer to model the state and behaviour of real-world systems, including physical and social systems; an integral part of most computer games.

**Variables-** a way in which computer programs can store, retrieve or change simple data, such as a score, the time left, or the user's name.

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