

# **Bryn Offa CE Primary School Computing Curriculum Map**

Created – Autumn 2020

## **Bryn Offa Computing Curriculum Rationale**

The content of the computing curriculum has been created using a number of different resources. It was also created in conjunction with the main local secondary school during a meeting in which they shared the list of skills they would like the Year 7 children start with.

Our curriculum is design to:

- Ensure children keep themselves safe in their use of technology at school and home.
- Increase the confidence of the children so they are never afraid to 'have a go'.
- Develop their core skills that they can transfer between applications and technology.
- Develop an understand how technology is used in the world around them.
- Enable them to be confident and skilled users of technology by the time they go to secondary school.

## **Key Vocabulary**

Here is some of the key vocabulary the children should be using with confidence. Most of the vocabulary is not age specific, but is about using the correct word when appropriate.

**Hardware** – USB (Universal Serial Bus), sensor, monitor, memory, processor, webcam, tablet, lightening cable, Bluetooth, wireless, LAN (Local Area Network), Server, Hard Drive, Lumens, decibel, degrees centigrade, screen, sleep / standby,

**Software** – Install, start menu, desktop, task bar, all programs, icon, open, load, save

**Keyboard and Mouse** – Single click, double click, drag and drop

**Coding** – Sprite, collision detection, broadcast and receive, colour picker, Beebot, degrees, turn, co-ordinates, hide, show, variable, rotation, costume, backdrop, loop, repeat, function, block

**Presenting** – Uppercase, Lower case, highlight, centre, justify, bold, italic, keyboard shortcut, text, position, word art, text wrapping.

**Graphics** – Select, group, ungroup, JPEG, GIFF, BITMAP, cut, crop, resize, rotate, flip, colour picker, flood, clip art, stock images, layer, order, MP4, AVI,

**Sound** – Sensor, loop, wave, waveform, microphone, headphones, speakers, vibration, images, MP3, WAV, volume, pitch

**Internet and Internet Safety** – URL (uniform resource locator), website, hyperlink, refresh, history, back, forward, multi-media, streaming, copyright, downloading, attachment

## **Core Skills**

Each section has some of the core skills the children need to become confident with. These will need to be revisited often as these are skills that are easily forgotten and make a huge difference to the level of success the children will feel in each lesson.

E-Aware Log On Details

Website - <https://www.eaware.co.uk/>

Username – [admin@brynoffa.shropshire.sch.uk](mailto:admin@brynoffa.shropshire.sch.uk)

Password – BrynOffa1515

## **Computing National Curriculum**

### **Early Years**

Early learning goal – moving and handling Children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively, including pencils for writing.

Early learning goal – technology Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

Knows that information can be retrieved from computers. – 30 to 50 months

Completes a simple program on a computer. • Interacts with age-appropriate computer software. – 40 to 60+ months

### **National Curriculum - Purpose of study**

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. 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.

### **Key stage 1**

Pupils should be taught to:

- understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

### **Key stage 2**

Pupils should be taught to:

- 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
- 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
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- 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.

## Computing - Class 1 (Cycle A – Even Years)

Autumn	Spring	Summer
<p>Main focus in the first term to be on the core skills.</p> <p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Friends : This unit aims to teach children how to recognise what a real friend is and how to recognise that someone who they communicate with online might not necessarily their 'friend'</p> <p>E- Aware Unit – Positive Communication : This unit aims to teach children how to communicate online in a respectful and responsible manner. It introduces them to the concept of cyberbullying and what to do if someone is unkind to them online.</p> <p><b><u>Additional safety</u></b></p> <ul style="list-style-type: none"> <li>- When they are allowed to use computers in school and when not</li> <li>- When they can use the internet in school and when not</li> <li>- Keeping personal information safe</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages. Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>	<p><b><u>Coding</u></b></p> <p>Roamer and Beebots</p> <ul style="list-style-type: none"> <li>- Understand how a turn can be measured (Using a clock to help by using minutes to measure the turn)</li> <li>- Create verbal instructions for partner to follow (less able one at a time)</li> <li>- Control the distance roamer travels and how much it turns accurately by measuring and predicting how big the movements should be</li> </ul> <p>More Able Children – Use the other features such as the laser to add into the sequence of commands</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages. Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Teacher to use technology to create simple bar chart with pictures (software?)</li> <li>- How the electronic registers work</li> <li>- Use sensors to collect single data results using pictures / icons</li> </ul> <p>Code.org Course 1  <a href="https://studio.code.org/s/course1">https://studio.code.org/s/course1</a></p> <ul style="list-style-type: none"> <li>- Drag and drop</li> <li>- Repeat instructions</li> <li>- Sequencing instructions</li> <li>- Simple loops</li> </ul> <p>More Able – More able children may be able to go beyond Stage 11 to start using repeat loops</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages. Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>

## Computing - Class 1 (Cycle B – Odd Years)

Autumn	Spring	Summer
<p>Main focus in the first term to be on the core skills.</p> <p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Friends : This unit aims to teach children how to recognise what a real friend is and how to recognise that someone who they communicate with online might not necessarily their 'friend'</p> <p>E- Aware Unit –Positive Communication : This unit aims to teach children how to communicate online in a respectful and responsible manner. It introduces them to the concept of cyberbullying and what to do if someone is unkind to them online.</p> <p><b><u>Additional safety</u></b></p> <ul style="list-style-type: none"> <li>- When they are allowed to use computers in school and when not</li> <li>- When they can use the internet in school and when not</li> <li>- Keeping personal information safe</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.</li> </ul>	<p><b><u>Coding</u></b></p> <p>Roamer and Beebots</p> <ul style="list-style-type: none"> <li>- Understand how a turn can be measured (Using a clock to help by using minutes to measure the turn)</li> <li>- Create verbal instructions for partner to follow (less able one at a time)</li> <li>- Control the distance roamer travels and how much it turns accurately by measuring and predicting how big the movements should be</li> </ul> <p>More Able Children – Use the other features such as the laser to add into the sequence of commands</p> <p>Course A - <a href="https://studio.code.org/s/coursea-2019">https://studio.code.org/s/coursea-2019</a></p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages. Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Teacher to use technology to create simple bar chart with pictures (software?)</li> <li>- How the electronic registers work</li> <li>- Use sensors to collect single data results using pictures / icons</li> </ul> <p><b><u>Coding</u></b></p> <p>Code.org Course 1 <a href="https://studio.code.org/s/course1">https://studio.code.org/s/course1</a></p> <ul style="list-style-type: none"> <li>- Drag and drop</li> <li>- Repeat instructions</li> <li>- Sequencing instructions</li> <li>- Simple loops</li> </ul> <p>More Able – More able children may be able to go beyond Stage 11 to start using repeat loops</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages. Controlling the cursor with mouse accurately.</li> <li>- Accurate use of single and double click.</li> <li>- Accurate use of drag and drop.</li> <li>- Effective use of touchscreen skills using single and multiple point commands.</li> <li>- Be able to find the correct keys on a keyboard and select upper and lower case.</li> <li>- Record sound using simple hardware.</li> <li>- Confident use of Ipad for a limited range of software</li> </ul> <ul style="list-style-type: none"> <li>▪ understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions</li> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>

## Computing - Class 2 (Cycle A – Even Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Friends : This unit aims to teach children how to recognise what a real friend is and how to recognise that someone who they communicate with online might not necessarily their 'friend'</p> <p>E- Aware Unit –Positive Communication - This unit aims to teach children how to communicate online in a respectful and responsible manner. It introduces them to the concept of cyberbullying and what to do if someone is unkind to them online.</p> <p>E- Aware Unit – Digital Footprints - Start to understand what is meant by a 'digital footprint' Understand that everything they do online creates a digital footprint which is permanent Recap and explore what is appropriate to do and put online</p> <p><b><u>Additional safety</u></b></p> <ul style="list-style-type: none"> <li>- When they are allowed to use computers in school and when not</li> <li>- When they can use the internet in school and when not</li> <li>- Keeping personal information safe</li> <li>- People pretending to be who they aren't</li> </ul> <p><b><u>Coding</u></b></p> <p>Code.org Course 1 <a href="https://studio.code.org/s/course1">https://studio.code.org/s/course1</a></p> <ul style="list-style-type: none"> <li>- Drag and drop</li> <li>- Repeat instructions</li> <li>- Sequencing instructions</li> <li>- Simple loops</li> </ul> <p>More Able – More able children may be able to go beyond Stage 11 to start using repeat loops</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Turn specific sensors on and off and select appropriate units of measure (Pictorial for younger children)</li> <li>- Create a graph from within the sensor software</li> <li>- Create computer bar chart / pictogram?? From data they have collected in the real world</li> <li>- Navigate the menu system in the sensors</li> </ul> <p><b><u>Coding</u></b></p> <p>Code.org Course 2 <a href="https://studio.code.org/s/course2">https://studio.code.org/s/course2</a></p> <ul style="list-style-type: none"> <li>- Control sprite with forward and turn commands</li> <li>- Control sprite and avoid obstacles which needs the children to predict the sequence of commands</li> <li>- Control turns by selecting degree of turn</li> <li>- Alter colours and set distances in pixels</li> <li>- Create multistep operations to complete the task</li> </ul> <p>More able - Use the 'Show Code' icon to show the more able children what the code looks like for the visual activities.</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> <li>- Use a variety of appropriate software on the Ipads</li> <li>- Use gesture controls on tablets</li> </ul> <ul style="list-style-type: none"> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> <li>▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> </ul>	<p><b><u>Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Look at examples of posters etc and discuss how they are made with computers and printers</li> <li>- Position text by using tools rather than space bar</li> <li>- Change the way text looks to suit a purpose</li> <li>- Use clip art to enhance work</li> </ul> <p><b><u>Internet and Communication</u></b></p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> <li>- Use a variety of appropriate software on the Ipads</li> <li>- Use gesture controls on tablets</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>▪ recognise common uses of information technology beyond school</li> </ul>

## Computing - Class 2 (Cycle A – Even Years)

Autumn

Spring

Summer

- Use a variety of appropriate software on the I pads
- Use gesture controls on tablets

- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

## Computing - Class 2 (Cycle B – Odd Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Private Information - Start to recognise what personal information should be kept private. Understand that we should not share any private information online.</p> <p>E- Aware Unit – Time Online - Start to understand how spending too much time online can be detrimental to your health Understand that it's important to have a healthy balance in life Start to understand concept of time and how much to spend online</p> <p>E- Aware Unit – Digital Footprints - Start to understand what is meant by a 'digital footprint' Understand that everything they do online creates a digital footprint which is permanent Recap and explore what is appropriate to do and put online</p> <p><b><u>Coding</u></b> Code.org Course A <a href="https://studio.code.org/s/coursea-2019">https://studio.code.org/s/coursea-2019</a> <a href="https://curriculum.code.org/csf-19/coursea/">https://curriculum.code.org/csf-19/coursea/</a> More Able – More able children may be able to go beyond Stage 11 to start using repeat loops</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> <li>- Use a variety of appropriate software on the Ipads</li> <li>- Use gesture controls on tablets</li> </ul> <ul style="list-style-type: none"> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> <li>▪ use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Turn specific sensors on and off and select appropriate units of measure (Pictorial for younger children)</li> <li>- Create a graph from within the sensor software</li> <li>- Create computer bar chart / pictogram?? From data they have collected in the real world</li> <li>- Navigate the menu system in the sensors</li> </ul> <p><b><u>Coding</u></b> Code.org Course B <a href="https://studio.code.org/s/courseb-2019">https://studio.code.org/s/courseb-2019</a></p> <ul style="list-style-type: none"> <li>- Create sequence of commands</li> <li>- Creating repeating loops</li> <li>- Alter colours and set distances in pixels</li> <li>- Create multistep operations to complete the task</li> </ul> <p>More able - Use the 'Show Code' icon to show the more able children what the code looks like for the visual activities.</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> <li>- Use a variety of appropriate software on the Ipads</li> <li>- Use gesture controls on tablets</li> </ul> <ul style="list-style-type: none"> <li>▪ create and debug simple programs</li> <li>▪ use logical reasoning to predict the behaviour of simple programs</li> </ul>	<p><b><u>Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Position text by using tools rather than space bar</li> <li>- Change the way text looks to suit a purpose</li> <li>- Use clip art to enhance work</li> <li>- Load and save work effectively</li> <li>- Try to use the computer to reproduce a poster or document that uses a variety of formatting techniques.</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use a variety of websites for learning and be confident with the way things are selected and how to navigate between pages.</li> <li>- Able to use mouse with a decent degree of accuracy.</li> <li>- Able to use keyboard to use upper and lower case in addition to the symbols.</li> <li>- Understand the coding instructions and be able to explain what simple code may do.</li> <li>- Turn the sensors on and use to gather data as long as the sensors set up in advance.</li> <li>- Use simple formatting and colour to enhance work.</li> <li>- Use a variety of appropriate software on the Ipads</li> <li>- Use gesture controls on tablets</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>▪ recognise common uses of information technology beyond school</li> <li>▪</li> </ul>

**Computing - Class 2 (Cycle B – Odd Years)**

Autumn

Spring

Summer

concerns about content or contact on the internet or other online technologies.

## Computing - Class 3 (Cycle A – Even Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Photos : Understand that when a photo is uploaded to the internet, it is there forever Understand that you should ask a persons’ permission before uploading a picture of them Recognise that sometimes pictures on the internet have been edited</p> <p>E- Aware Unit – Fake News : Understand what is meant by the term ‘Fake News’ Start to Understand the reasons why Fake News is used in our world Start to develop strategies for recognising Fake News</p> <p>E- Aware Unit – Time Online : Understand how spending too much time online can be detrimental to your health Understand that it’s important to have a healthy balance in life Understand how to spread our time between activities effectively</p> <p>E- Aware Unit – Friends : This unit aims to teach children how to create a strong password and what could happen if our passwords are used by another person.</p> <p><b><u>Coding</u></b></p> <p>Code.org Course 3</p> <p><a href="https://studio.code.org/s/course3">https://studio.code.org/s/course3</a></p> <ul style="list-style-type: none"> <li>- Control sprite with forward and turn commands</li> <li>- Use repeat loop to shorten instructions</li> <li>- Use conditional repeat loop</li> <li>- Define functions and include within instructional loops</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> <li>- Use single point and multiple point commands on a touchscreen.</li> <li>- Use the basic formatting tools within presentation software such as word and Powerpoint</li> <li>- Use the sensors accurately when used as a standalone device.</li> <li>- Make effective use of formatting and colour to add visual impact to work.</li> </ul>	<p><b><u>Scratch! – Animation</u></b></p> <ul style="list-style-type: none"> <li>- Use ‘Create a story’ tutorial</li> <li>- Create simple story using one sprite and timing</li> <li>- Make effective use of screen co-ordinates accurately</li> <li>- Use printed and recorded speech</li> <li>- Make use of multiple backgrounds and costume changes</li> <li>- Use sensing blocks to create character interaction</li> </ul> <p><b><u>Data Handling (Link to Science)</u></b></p> <ul style="list-style-type: none"> <li>- Teacher to use technology to create simple bar chart with pictures (probably Excel)</li> <li>- How the electronic registers work</li> <li>- Create computer bar chart / pictogram?? From data they have collected in the real world</li> <li>- Navigate the menu system in the sensors</li> <li>- Use sensors (with pictograms) to collect data for a science investigation</li> <li>- Use sensors to collect simple data that can be taken from sensor and written down.</li> <li>- Turn specific sensors on and off and select appropriate units of measure</li> <li>- Collect data, enter into spreadsheet and create graph</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> <li>- Use single point and multiple point commands on a touchscreen.</li> <li>- Use the basic formatting tools within presentation software such as word and Powerpoint</li> <li>- Use the sensors accurately when used as a standalone device.</li> <li>- Make effective use of formatting and colour to add visual impact to work.</li> <li>- Be able to research a topic online effectively without getting overwhelmed with the amount of information.</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>▪ 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</li> </ul>	<p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Record sound and play back through simple push button recorder</li> <li>- Record sound on a standalone device that can record multiple sounds</li> <li>- Compare standalone sound recorders</li> <li>- Record sound through microphone connected to computer</li> <li>- Save recorded sound and load back in again</li> </ul> <p><b><u>Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Position text by using tools rather than space bar</li> <li>- Change the way text looks to suit a purpose</li> <li>- Add images to text through clip art</li> <li>- Use word art appropriately</li> <li>- Insert images and text wrap</li> <li>- Insert images and text with a specific layering</li> <li>- Extract text and images from web sites to insert into own work</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> <li>- Use single point and multiple point commands on a touchscreen.</li> <li>- Use the basic formatting tools within presentation software such as word and Powerpoint</li> <li>- Use the sensors accurately when used as a standalone device.</li> <li>- Make effective use of formatting and colour to add visual impact to work.</li> <li>- Be able to research a topic online effectively without getting overwhelmed with the amount of information.</li> </ul>

### Computing - Class 3 (Cycle A – Even Years)

Autumn

Spring

Summer

- Be able to research a topic online effectively without getting overwhelmed with the amount of information.

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

## Computing - Class 3 (Cycle B – Odd Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Things are not always as they seem : Understand that what we see online is not always what we think it is Understand that it is easy for people to lie online Understand that it is possible to be tricked into doing things online.</p> <p>E- Aware Unit – Cyberbullying : Identify the meaning of the word 'cyberbullying' Identify the online dangers and understand ways we can stay safe online Identify cyberbullying and understand its' consequences Promote active and open discussions to promote an openness to talk about cyberbullying.</p> <p>E- Aware Unit – Passwords : This unit aims to teach children how to create a strong password and what could happen if our passwords are used by another person.</p> <p><b><u>Additional safety</u></b></p> <ul style="list-style-type: none"> <li>- How to report things in school and if they needed to report things at home</li> <li>- Difference between real world and online work</li> <li>- People pretending to be who they aren't</li> <li>- Keeping personal information safe</li> </ul> <p><b><u>Coding</u></b> Code.org Course D <a href="https://studio.code.org/s/coursed-2019">https://studio.code.org/s/coursed-2019</a> <a href="https://curriculum.code.org/csf-19/coursed/">https://curriculum.code.org/csf-19/coursed/</a></p> <ul style="list-style-type: none"> <li>- Sequencing</li> <li>- Creating repeat loops</li> <li>- Conditionals</li> <li>- Binary</li> </ul> <p>More able - Use the 'Show Code' icon to show the more able children what the code looks like for the visual activities.</p> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> </ul>	<p><b><u>Scratch! (Create an animation where sprites react to each other and their background)</u></b></p> <ul style="list-style-type: none"> <li>- Select and move character</li> <li>- Adding sound to script</li> <li>- Add background and edit sprite</li> <li>- Record own sounds to use instead of built in sounds</li> </ul> <p>More able could attempt to find and download free sound clips to use (Very tricky)</p> <p><b><u>Data Handling (Link to Science)</u></b></p> <ul style="list-style-type: none"> <li>- Teacher to use technology to create simple bar chart with pictures (link to science)</li> <li>- How the electronic registers work</li> <li>- Create computer bar chart / pictogram?? From data they have collected in the real world</li> <li>- Navigate the menu system in the sensors</li> <li>- Use sensors (with pictograms) to collect data for a science investigation</li> <li>- Use sensors to collect simple data that can be taken from sensor and written down.</li> <li>- Turn specific sensors on and off and select appropriate units of measure</li> <li>- Collect data, enter into spreadsheet and create graph</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> <li>- Use single point and multiple point commands on a touchscreen.</li> <li>- Use the basic formatting tools within presentation software such as word and Powerpoint</li> <li>- Use the sensors accurately when used as a standalone device.</li> <li>- Make effective use of formatting and colour to add visual impact to work.</li> <li>- Be able to research a topic online effectively without getting overwhelmed with the amount of information.</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> </ul>	<p><b><u>Creative – Computer Art</u></b></p> <ul style="list-style-type: none"> <li>- Use MS Word to create regular shapes</li> <li>- Make effective use of resize, rotate and layering</li> <li>- Use grouping to create 'stamp'</li> <li>- produce a piece of art by using geometric and repeating shapes.</li> </ul> <p>More Able children may also be able to follow online tutorials to support other art work.</p> <p><b><u>Research and Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Explore difference between searching a particular web site compared to searching the whole internet.</li> <li>- Effective search techniques to find examples of the sort of work you are asking the children to do.</li> <li>- Explore all the software tools that allow the children to reproduce the effects they have researched.</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Use keyboard and mouse effectively</li> <li>- Use single point and multiple point commands on a touchscreen.</li> <li>- Use the basic formatting tools within presentation software such as word and Powerpoint</li> <li>- Use the sensors accurately when used as a standalone device.</li> <li>- Make effective use of formatting and colour to add visual impact to work.</li> <li>- Be able to research a topic online effectively without getting overwhelmed with the amount of information.</li> </ul> <ul style="list-style-type: none"> <li>▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>▪ 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</li> </ul>

### Computing - Class 3 (Cycle B – Odd Years)

#### Autumn

- Use single point and multiple point commands on a touchscreen.
  - Use the basic formatting tools within presentation software such as word and Powerpoint
  - Use the sensors accurately when used as a standalone device.
  - Make effective use of formatting and colour to add visual impact to work.
  - Be able to research a topic online effectively without getting overwhelmed with the amount of information.
- 
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.
  - 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

#### Spring

- 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

#### Summer

## Computing - Class 4 (Cycle A – Even Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Passwords : Understand the importance of keeping passwords safe Understand the importance of creating strong passwords Understand the consequences of sharing a password or leaving it lying around</p> <p>E- Aware Unit – Gaming : Understand the importance playing games which are age appropriate Understand the risks involved with in-App and gaming purchases Understand that people we meet online might not always be who they say they are</p> <p><b><u>Coding</u></b></p> <p>Scratch! – Game Design</p> <ul style="list-style-type: none"> <li>- Follow online tutorial for game design</li> <li>- Use an alternative method of moving sprite</li> <li>- Use Random function to create object in game that involves random movement</li> <li>- Create scoring and timing within game</li> <li>- Evaluate own game and the games of others</li> <li>- More Able: Create scoring for the game</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Use sensors effectively when used as a standalone device and when connected live to the computer</li> <li>- Set the sensor up to take readings when disconnected from the computer</li> <li>- Set the interval and duration of a data set</li> <li>- Collect data over an extended period, import into spreadsheet and create graph of results</li> <li>- Use of formula in spreadsheet (If then commands)</li> <li>- Use online database to navigate and interrogate</li> <li>- Use and create branching database to for identification (link to science classification keys)</li> <li>- More Able : Set up and conduct an experiment that uses more than one factor to determine if there is a link between them E.g. light and heat</li> </ul> <p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Record sounds using Audacity software</li> <li>- Edit sounds on Audacity to improve sound recording by removing mistakes</li> <li>- Use the sound tools to manipulate a sound recording E.g. make it louder or go backwards</li> <li>- Compare sound waves to actual sounds (link to science)</li> <li>- Use search tools to find, download and use free sound clips</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Drum loops – Use a variety of software to create drum loops from Youtube tutorials</li> <li>- Compose a piece of music by using LMMS</li> <li>- How speakers work (link to science)</li> <li>- More Able : Record sounds from proper musical instruments and compare sound waves to voice sounds</li> </ul> <p><b><u>Internet and Communication</u></b></p> <ul style="list-style-type: none"> <li>- Effective and safe use of email</li> <li>- Dangers of email and information sharing (link to internet safety)</li> <li>- Emailing to multiple recipients</li> <li>- Use of CC and BCC</li> <li>- Emailing attachments and the security concerns regarding this.</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ 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</li> </ul>

## Computing - Class 4 (Cycle A – Even Years)

Autumn

Spring

Summer

- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

## Computing - Class 4 (Cycle B – Odd Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Cyberbullying : Identify cyberbullying and understand its' consequences Promote active and open discussions to promote an openness to talk about cyberbullying Understand the importance of being an 'Upstander', not a 'Bystander'</p> <p>E- Aware Unit – Time Online : Understand how spending too much time online can be detrimental to your health Understand that it's important to have a healthy balance in life Debate the pros and cons of spending time in front of a screen</p> <p><b><u>Coding</u></b></p> <p>Scratch! (Creating 2D Shapes – Link to Maths)</p> <ul style="list-style-type: none"> <li>- Drawing squares and rectangles with pen tool and clearing screen to reset</li> <li>- Create an equilateral triangle and some other regular 2D shapes</li> <li>- Repeated function to create regular shape</li> <li>- Complex picture using script</li> <li>- More Able: Scalene triangles</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Turn specific sensors on and off and select appropriate units of measure</li> <li>- Collect data through live connection and by recording data</li> <li>- Create a graph from within the sensor software</li> <li>- Collect data, enter into spreadsheet and create graph</li> <li>- Use local database to interrogate and answer questions</li> <li>- More Able: Compare the way that different types of data are more suited to different graph types.</li> </ul> <p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Watch some online tutorials to determine the conventions used</li> <li>- Develop the skills of recording and editing video</li> <li>- Produce video tutorial and review the work of classmates</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<p><b><u>Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Make use of all main formatting tools in Word, Powerpoint and Publisher</li> <li>- Use layering effectively for text and images</li> <li>- Remove background and alter images for effect</li> </ul> <p><b><u>Internet and Communication</u></b></p> <ul style="list-style-type: none"> <li>- Effective and safe use of email</li> <li>- Dangers of email and information sharing (link to internet safety)</li> <li>- Emailing to multiple recipients</li> <li>- Use of CC and BCC</li> <li>- Emailing attachments and the security concerns regarding this.</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Make effective use of technology to improve other curriculum areas such as science</li> <li>- Be able to debug own coding on Scratch!</li> <li>- Use the sensors accurately when connected to the computer and when used remotely</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ 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</li> </ul>

**Computing - Class 4 (Cycle B – Odd Years)**

**Autumn**

**Spring**

**Summer**

- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

## Computing - Class 5 (Cycle A – Even Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Naked Images : Understand the laws relating to sending naked pictures Understand what to do if they are feeling pressured into sending a naked picture Understand the dangers and consequences of sending a naked picture</p> <p>E- Aware Unit – Fake News : Understand what is meant by the term 'Fake News' Develop strategies to help recognise when a news story might be fake. Start to understand why certain people or groups create fake news.</p> <p><b><u>Coding</u></b></p> <p>Scratch! – Game Design</p> <ul style="list-style-type: none"> <li>- Follow online tutorial for game design</li> <li>- Use an alternative method of moving sprite</li> <li>- Use Random function to create object in game that involves random movement</li> <li>- Create scoring and timing within game</li> <li>- Add an automatic element to the game, such as 'gravity'</li> <li>- Evaluate own game and the games of others</li> <li>- More Able: Use the random tool to create a scrolling background for the game</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Use sensors effectively when used as a standalone device and when connected live to the computer</li> <li>- Set the sensor up to take readings when disconnected from the computer</li> <li>- Set the interval and duration of a data set</li> <li>- Collect data over an extended period, import into spreadsheet and create graph of results</li> <li>- Use of formula in spreadsheet (If then commands)</li> <li>- Use online database to navigate and interrogate</li> <li>- Use and create branching database to for identification (link to science classification keys)</li> <li>- More Able : Set up and conduct an experiment that uses more than one factor to determine if there is a link between them E.g. light and heat</li> </ul> <p><b><u>Researching and Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Research how computers are used to produce digital content such as presentations and posters.</li> <li>- Research a field of interest – developing research techniques</li> <li>- Make use of all main formatting tools in Word, Powerpoint and Publisher</li> <li>- Use layering effectively for text and images</li> <li>- Remove background and alter images for effect</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ 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</li> <li>▪ use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> </ul>	<p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Drum loops – Use a variety of software to create drum loops from Youtube tutorials</li> <li>- Compose a piece of music by using LMMS</li> <li>- How speakers work (link to science)</li> <li>- More Able : Record sounds from proper musical instruments and compare sound waves to voice sounds</li> </ul> <p><b><u>Coding</u></b></p> <p>Scratch – Quiz</p> <ul style="list-style-type: none"> <li>- Follow online tutorial to create the formula for the quiz</li> <li>- Make use of background swap to match questions</li> <li>- Create scoring for the game and a timer</li> <li>- More Able – Work out how to make the answers a clickable button rather than a typed answer.</li> </ul> <p><b><u>Internet and Communication</u></b></p> <ul style="list-style-type: none"> <li>- Effective and safe use of email</li> <li>- Dangers of email and information sharing</li> <li>- Blogs and social media</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>▪ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>▪ 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</li> </ul>

## Computing - Class 5 (Cycle A – Even Years)

Autumn

Spring

Summer

- 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

## Computing - Class 5 (Cycle B – Odd Years)

Autumn	Spring	Summer
<p><b><u>Internet Safety</u></b></p> <p>E- Aware Unit – Naked images : Understand the laws relating to sending naked pictures Understand what to do if they are feeling pressured into sending a naked picture Understand the dangers and consequences of sending a naked picture</p> <p>E- Aware Unit – E- Aware Unit – Cyberbullying : Identify cyberbullying and understand its' consequences Promote active and open discussions to promote an openness to talk about cyberbullying Understand the importance of being an 'Upstander', not a 'Bystander'</p> <p><b><u>Coding</u></b></p> <p>Scratch! (Creating 2D Shapes – Link to Maths)</p> <ul style="list-style-type: none"> <li>- Drawing squares and rectangles with pen tool and clearing screen to reset</li> <li>- Create an equilateral triangle and some other regular 2D shapes</li> <li>- Repeated function to create regular shape</li> <li>- Complex picture using script</li> <li>- More Able: Attempt to use a formula within the coding for regular geometric shapes</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>▪ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> </ul>	<p><b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>- Manipulate data in a spreadsheet to create graphs and perform calculations</li> <li>Turn specific sensors on and off and select appropriate units of measure</li> <li>- Collect data through live connection and by recording data</li> <li>- Create a graph from within the sensor software</li> <li>- Collect data, enter into spreadsheet and create graph</li> <li>- Use local database to interrogate and answer questions</li> <li>- More Able: Compare the way that different types of data are more suited to different graph types.</li> </ul> <p><b><u>Creative</u></b></p> <ul style="list-style-type: none"> <li>- Drum loops</li> <li>- Compose a piece of music by using LMMS</li> <li>- How speakers work (link to science)</li> <li>- More Able : Record sounds from proper musical instruments and compare sound waves to voice sounds</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ 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</li> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> </ul>	<p><b><u>Presenting</u></b></p> <ul style="list-style-type: none"> <li>- Make use of all main formatting tools in Word, Powerpoint and Publisher</li> <li>- Use layering effectively for text and images</li> <li>- Remove background and alter images for effect</li> </ul> <p><b><u>Internet and Communication</u></b></p> <ul style="list-style-type: none"> <li>- Effective and safe use of email</li> <li>- Use of Skype within school</li> <li>- Blogs and social media</li> </ul> <p><b><u>Core Skills</u></b></p> <ul style="list-style-type: none"> <li>- Understand the dangers online and how to keep themselves safe</li> <li>- Saving, finding and opening their own work across multiple software</li> <li>- Use correct formatting tools in presentation software</li> <li>- Deal with common error messages themselves.</li> <li>- Set up and use hardware appropriately</li> <li>- Follow an online tutorial</li> <li>- Be able to use online tools to research effectively</li> </ul> <ul style="list-style-type: none"> <li>▪ design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts</li> <li>▪ use sequence, selection, and repetition in programs; work with variables and various forms of input and output</li> <li>▪ use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>▪ 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</li> </ul>

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