

# COMPUTING/ICT: CURRICULUM CONTENT AND PROGRESSION FRAMEWORK

**Topics/Themes/Texts:** (To be decided by individual schools)

**The key things we want children to know/be able to do**

## FOUNDATION

All supporting resources can be found on PurpleMash in the teaching schemes of work. At Riverside, in EYFS we will use the resources to meet the following Early Learning Goals via ICT.

Communication and language:

- Listen and attention
- Being imaginative
- Speaking
- Understanding

Expressive Arts and Design:

- Exploring and using media materials

Literacy:

- Reading
- Writing

### Computer Science

- To make a floor robot move.  
e.g. Beebot, Bluebot, Code-a-pillar, Code & Go Mouse, Cubetto
- To complete a simple program on a computer.  
e.g. 2Go, MiniMash activity, online counting game
- To make choices about the buttons and icons pressed, touched or clicked on.

### E-Safety

- To ask an adult when you want to use the Internet.
- To explain to an adult when something worrying or unexpected happens while using the Internet.
- To be kind to friends.
- To talk about the amount of time spent using a computer / tablet / game device.
- To be careful with technology devices.

### Handling Data

- To explain different kinds of information such as pictures, video, text and sound.

<p>Mathematics:</p> <ul style="list-style-type: none"> <li>• Numbers</li> <li>• Shape and Measure</li> </ul> <p>Physical Development:</p> <ul style="list-style-type: none"> <li>• Health and self-care</li> </ul> <p>PSED:</p> <ul style="list-style-type: none"> <li>• Making Relationships</li> <li>• Self-confidence and self-awareness</li> </ul> <p>Understanding the World:</p>	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>• To move objects on a screen.</li> <li>• To create shapes and text on a screen.</li> <li>• To use technology to show learning. e.g. Take photos, videos, use voice recording devices</li> <li>• To select and use technology for particular purposes.</li> </ul> <hr/> <p><b>Technology In Our Lives</b></p> <ul style="list-style-type: none"> <li>• To talk about technology that is used at home and in school.</li> <li>• To operate simple equipment. e.g. music players, toys with knobs and pulleys</li> <li>• To use a safe part of the Internet to play and learn.</li> </ul>
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- People and Communities
- Technology
- The World

**YEAR 1**

**Topics/Themes/Texts:** (To be decided by individual schools)

**The key things we want children to know/be able to do**

<p>Angry Birds coding</p> <p>Purple Mash - 1.4, 1.5 and 1.7</p> <p>Beebot</p>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>• To give instructions to others and follow their instructions to move around.</li> <li>• To describe what happens when a button is pressed on a robot. e.g. Beebot, Bluebot, Code-a-pillar, Code &amp; Go Mouse, Cubetto</li> <li>• To press buttons in the correct order to make a robot do what you want.</li> <li>• To describe what actions are needed to make something happen and begin to use the word algorithm.</li> <li>• To begin to predict what will happen for a short sequence of instructions.</li> <li>• To begin to use software/apps to create movement and patterns on a screen. e.g. 2Go, Lightbot</li> <li>• To use the word debug when correcting mistakes when programming.</li> </ul>
<p>Hector's World</p> <p>Purple Mash 1.1</p> <p>Internet Safety day</p>	<p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>• To keep a password private.</li> <li>• To explain what personal information is.</li> <li>• To tell an adult when unexpected or worrying content is found online.</li> <li>• To talk about why it's important to be kind and polite.</li> <li>• To recognise an age appropriate websites &amp; games.</li> <li>• To agree and follow sensible e-Safety rules.</li> </ul>
<p>Purple Mash - Grouping and sorting 1.2</p> <p>- Pictograms 1.3</p>	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>• To explain the different ways in which information can be shown.</li> <li>• To use technology to collect information for a purpose, including photos, video and sound.</li> <li>• To sort different kinds of information and present it to others. e.g. Venn Diagram, 2Count</li> <li>• To add information to a pictograph and talk about what is found out.</li> </ul>

Purple Mash - Animated books 1.6	<b>Creative Use Of Media</b> <ul style="list-style-type: none"><li>● To be creative with different technology tools. e.g. 2Paint, take digital photos and use in a collage</li><li>● To use technology to create and present ideas. e.g. poster, e-book</li><li>● To use the keyboard or a word bank on a device to enter text.</li><li>● To save information in a special place and retrieve it again.</li></ul>
Purple Mash - 1.9	<b>Technology in Our Lives</b> <ul style="list-style-type: none"><li>● To recognise the ways we use technology in our classroom, home and community.</li><li>● To use links to websites/bookmarks to find information.</li><li>● To begin to identify some of the benefits of using technology.</li></ul>

<b>YEAR 2</b>	
<b>Topics/Themes/Texts:</b> (To be decided by individual schools)	<b>The key things we want children to know/be able to do</b>

<p>Purple Mash Unit 2.1 coding</p> <p>Kodable</p>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>• To give instructions to a friend (using forward, backward and turn) and physically follow their instructions.</li> <li>• To describe the order things need to be done to make something happen and talk about this as an algorithm.</li> <li>• To program a robot or software to do a particular task.</li> <li>• To look at a completed algorithm program and predict what will happen.</li> <li>• To use programming software to make objects move. e.g. <a href="#">2Code</a>, <a href="#">Logo</a>, <a href="#">J2Code - Turtle</a></li> <li>• To watch a program execute and spot where it goes wrong so that it can be debugged.</li> </ul>
<p>Internet safely day</p> <p>Internet safely - Twinkl</p> <p>Purple Mash Unit 2.2 Online Safety</p>	<p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>• To explain why you need to keep a password and personal information private.</li> <li>• To describe the things that can happen online that you must tell an adult about.</li> <li>• To talk about why you should go online for a short amount of time.</li> <li>• To talk about why it is important to be kind and polite online and in real life.</li> <li>• To know that not everyone is who they say they are on the Internet.</li> </ul>
<p>Purple Mash Unit 2.3 Spreadsheets</p> <p>Unit 2.4 Questioning</p>	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>• To talk about the different ways we use technology to collect information, including a camera, microscope or sound recorder.</li> <li>• To make and save a chart or graph using the data we collect. e.g. <a href="#">2Count</a>, <a href="#">2Graph</a></li> <li>• To talk about the data that is shown in a chart or graph.</li> <li>• To start to understand a branching database. e.g. <a href="#">J2Data - Branch</a>, <a href="#">2Question</a>, <a href="#">paper-based database</a></li> <li>• To tell you what kind of information you could use to help you investigate a question.</li> </ul>
<p>Purple Mash Unit 2.6 creating pictures</p>	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>• To use technology to organise and present ideas in different ways.</li> </ul>

<p>Unit 2.7 Making music</p> <p>Unit 2.8 Presenting ideas</p>	<ul style="list-style-type: none"> <li>● To use the keyboard on devices to add, delete and space text for others to read.</li> <li>● To talk about an online tool that will help to share ideas with other people.</li> <li>● To save and open files on the device being used.</li> </ul>
<p>Purple Mash Unit 2.5 Effective searching</p> <p>ventions topic including internet</p>	<p><b>Technology in Our Lives</b></p> <ul style="list-style-type: none"> <li>● To explain why we use technology in the classroom, home and community.</li> <li>● To start to understand that other people have created the information we use.</li> <li>● To identify benefits of using technology including finding information, creating and communicating.</li> <li>● To explain the differences between the Internet and things in the physical world.</li> </ul>



<b>YEAR 3</b>	
<b>Topics/Themes/Texts:</b> (To be decided by individual schools)	<b>The key things we want children to know/be able to do</b>
<ul style="list-style-type: none"> <li>- Kodable website</li> <li>- J2 code website</li> </ul>	<p><b>Computer Science</b></p> <ul style="list-style-type: none"> <li>● To break an open-ended problem up into smaller parts.</li> <li>● To put programming commands into a sequence to achieve a specific outcome.</li> <li>● To keep testing a program and recognise when it needs debugging.</li> <li>● To use repeat commands.</li> <li>● To describe the algorithm that is needed for a simple task.</li> <li>● To detect a problem in an algorithm which could result in unsuccessful programming.</li> </ul>
	<b>E-Safety</b>

<ul style="list-style-type: none"> <li>- Internet safety day</li> <li>- Twinkl internet safety stories</li> <li>- Purple Mash</li> </ul>	<ul style="list-style-type: none"> <li>● To talk about what makes a secure password and why they are important.</li> <li>● To protect personal information when doing different things online.</li> <li>● To use the safety features of websites as well as reporting concerns to an adult.</li> <li>● To recognise websites and games appropriate for my age.</li> <li>● To make good choices about how long is spent online.</li> <li>● To ask an adult before downloading files and games from the Internet.</li> <li>● To post positive comments online.</li> </ul>
<ul style="list-style-type: none"> <li>- Using Excel</li> <li>- links to maths - statistics, bar charts via Topmarks websites - answering questions, reading graphs</li> </ul>	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>● To talk about the different ways data can be organised.</li> <li>● To search a ready-made database to answer questions.</li> <li>● To collect data help me answer a question.</li> <li>● To add to a database.</li> <li>● To make a branching database.</li> <li>● To use a data logger to monitor changes and can talk about the information collected.</li> </ul>
<ul style="list-style-type: none"> <li>- Purple Mash</li> </ul>	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>● To create different effects with different technology tools.</li> <li>● To combine a mixture of text, graphics and sound to share ideas and learning.</li> <li>● To use appropriate keyboard commands to amend text on a device, including making use of a spellchecker.</li> <li>● To evaluate work and improve its effectiveness.</li> <li>● To use an appropriate tool to share work online.</li> </ul>
<ul style="list-style-type: none"> <li>- Saving work to school network</li> <li>- Using Google classroom</li> </ul>	<p><b>Technology in Our Lives</b></p> <ul style="list-style-type: none"> <li>● To independently save and retrieve work on the Internet, the school network or a personal device.</li> <li>● To talk about the parts of a computer.</li> <li>● To discuss ways to communicate with others online.</li> <li>● To describe the World Wide Web as the part of the Internet that contains websites.</li> <li>● To use search tools to find and use an appropriate website.</li> <li>● To think about whether I can reuse online content (movies, text,</li> </ul>

images) from the WWW.

**YEAR 4**

**Topics/Themes/Texts:** (To be decided by individual schools)

**The key things we want children to know/be able to do**

Purple Mash Unit 4.1 Coding

Purple Mash Unit 4.5 Logo

**Computer Science**

	<ul style="list-style-type: none"> <li>● To use logical thinking to solve an open-ended problem by breaking it up into smaller parts.</li> <li>● To use an efficient procedure to simplify a program.</li> <li>● To use a sensor to detect a change which can select an action within my program.</li> <li>● To know that there is a need to keep testing my program while putting it together.</li> <li>● To use a variety of tools to create a program.</li> <li>● To recognise an error in a program and debug it.</li> <li>● To recognise that an algorithm will help me to sequence more complex programs.</li> <li>● To recognise that using algorithms will also help solve problems in other learning such as Maths, Science and Design and Technology.</li> </ul>
Purple Mash Unit 4.2 Online Safety	<p><b>E-Safety</b></p> <ul style="list-style-type: none"> <li>● To choose a secure password when I am creating an account.</li> <li>● To talk about the ways you can protect yourself and friends from harm online.</li> <li>● To use the safety features of websites as well as reporting concerns to an adult.</li> <li>● To know that anything posted online can be seen by others.</li> <li>● To choose websites and games that are appropriate for my age.</li> <li>● To help friends make good choices about the time they spend online.</li> <li>● To talk about why it is needed to ask a trusted adult before downloading files and games from the Internet.</li> <li>● To comment positively and respectfully online.</li> </ul>
Purple Mash Unit 4.3 Handling Data	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>● To organise data in different ways.</li> <li>● To collect data and identify where it could be inaccurate.</li> <li>● To plan, create and search a database to answer questions.</li> <li>● To choose the best way to present data to an audience.</li> <li>● To use a data logger to record and share readings with others..</li> </ul>

<p>Purple Mash Unit 4.4 Writing for different audiences</p> <p>Purple Mash Unit 4.6 Animation</p> <p>Purple Mash Unit 4.9 Making Music</p>	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>● To use photos, video and sound to create an atmosphere when presenting to different audiences.</li> <li>● To explore new media to extend what I can achieve.</li> <li>● To change the appearance of text to increase its effectiveness.</li> <li>● To create, modify and present documents for a particular purpose.</li> <li>● To use a keyboard confidently and make use of a spellchecker to write and review my work.</li> <li>● To use an appropriate tool to share my work and collaborate online.</li> <li>● To give constructive feedback to friends to help them improve their work and refine my own work.</li> </ul>
<p>Purple Mash Unit 4.7 Effective Searching</p> <p>Purple Mash Unit 4.8 Hardware Investigators</p>	<p><b>Technology in Our Lives</b></p> <ul style="list-style-type: none"> <li>● To tell whether a resource being using is on the Internet, the school network or my own device. ("The Cloud").</li> <li>● To identify key words to use when searching safely on the World Wide Web.</li> <li>● To think about the reliability of the information is read on the World Wide Web.</li> <li>● To tell how to check who owns photos, text and clipart.</li> <li>● To create a hyperlink to a resource on the World Wide Web.</li> </ul>
<p><b>YEAR 5</b></p>	

*In Upper Key Stage 2, all projects should, where possible, have a brief to be creatively met and evaluated against by pupils (audience, purpose criteria, composition).*

**Topics/Themes/Texts:** (To be decided by individual schools)

**The key things we want children to know/be able to do**

Purple Mash Unit 5.1 - coding

**Computer Science**

- To decompose a problem into smaller parts to design an algorithm for a specific outcome and use this to write a program.
- To refine a procedure using repeat commands to improve a program.
- To use a variable effectively.  
e.g. Scores, Timers
- To change an input to a program to achieve a different output.
- To use 'if' and 'then' commands to select an action.
- To talk about how a computer model can provide information about a physical system.
- To use logical reasoning to detect and debug mistakes in a program.
- To use logical thinking, imagination and creativity to extend a program.

Purple Mash unit 5.2 E-safety

**E-Safety**

- To protect my password and other personal information.
- To explain the need to protect oneself and friends and the best ways to do this, including reporting concerns to an adult.
- To know that anything I post online can be seen, used and may affect others.
- To talk about the dangers of spending too long online or playing a game.
- To explain the importance of communicating kindly and respectfully.
- To discuss the importance of choosing an age-appropriate website

	<p>or game.</p> <ul style="list-style-type: none"> <li>● To explain why I need to protect my computer or device from harm.</li> <li>● To know which resources on the Internet I can download and use.</li> </ul>
Purple Mash units 5.3 and 5.4 databases and spreadsheets	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>● To use a spreadsheet and database to collect and record data.</li> <li>● To choose an appropriate tool to help collect data.</li> <li>● To present data in an appropriate way.</li> <li>● To search a database using different operators to refine my search.</li> <li>● To talk about mistakes in data and suggest how it could be checked.</li> </ul>
Purple Mash units 5.6 and 5.7 Game creator and 3D modelling	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>● To use text, photo, sound and video editing tools to refine work.</li> <li>● To use the skills already developed to create content using unfamiliar technology. e.g. across chromebook to laptop technology/ software.</li> <li>● To select, use and combine the appropriate technology tools to create effects that will have an impact on others.</li> <li>● To select an appropriate online or offline tool to create and share ideas.</li> <li>● To review and improve my own work and support others to improve their work.</li> </ul>
Purple Mash Units 5.7 and 5.8 Concept Maps and word processing	<p><b>Technology in Our Lives</b></p> <ul style="list-style-type: none"> <li>● To describe different parts of the Internet.</li> <li>● To use different online communication tools for different purposes.</li> <li>● To use a search engine to find and evaluate appropriate information on the WWW and check its reliability.</li> <li>● To describe the different parts of a webpage.</li> <li>● To find out who the information on a webpage belongs to.</li> </ul>

<b>YEAR 6</b>	
<b>Topics/Themes/Texts:</b> (To be decided by individual schools)	<b>The key things we want children to know/be able to do</b>
<i>In Upper Key Stage 2, all projects should, where possible, have a brief to be creatively met and evaluated against by pupils (audience, purpose criteria, composition).</i>	
Purple Mash Unit 6.1 Coding (Autumn Term) 6.6 Networks (Autumn Term)	<b>Computer Science-</b> <ul style="list-style-type: none"> <li>● To be able to design and deconstruct a problem into smaller steps.</li> <li>● To explain and write/program each of the steps in an algorithm.</li> <li>● To evaluate the effectiveness and efficiency of an algorithm while continually testing the programming of that algorithm for “bugs”.</li> <li>● To recognise when there is a need to use a variable to achieve a required output.</li> <li>● To use a variable and operators to stop a program.</li> <li>● To use different inputs (including sensors) to control a device or onscreen action and predict what will happen.</li> <li>● To use logical reasoning to detect and correct errors in algorithms and programs.</li> </ul>
Purple Mash : Unit 6.2 Online Safety (Autumn Term)	<b>E-Safety</b> <ul style="list-style-type: none"> <li>● To understand the need to use and protect a strong password and other personal information.</li> <li>● To explain the consequences of sharing too much about oneself</li> </ul>



	<p>online.</p> <ul style="list-style-type: none"> <li>• To support friends to protect themselves and make good choices online, including reporting concerns to an appropriate body.</li> <li>• To explain the consequences of spending too much time online or on a game.</li> <li>• To explain the consequences to oneself and others of not communicating kindly and respectfully.</li> <li>• To protect a computer or device from harm on the Internet.</li> </ul>
<p>Science Rainfall</p>	<p><b>Handling Data</b></p> <ul style="list-style-type: none"> <li>• To select the most effective tool to collect data for an investigation.</li> <li>• To check the data collected for accuracy and plausibility.</li> <li>• To interpret the data that is collected</li> <li>• To present the data collected in an appropriate way.</li> <li>• To use the skills developed to interrogate a database.</li> </ul>
<p>Purple Mash: 6.5 Text Adventure (Spring Term)</p>	<p><b>Creative Use Of Media</b></p> <ul style="list-style-type: none"> <li>• To talk about audience, atmosphere and composition when planning a particular outcome.</li> <li>• To combine a range of media, recognising the contribution of each to achieve a particular outcome. e.g. diting photos, audio and videos to be used purposefully in a project.</li> </ul>
<p>Purple Mash: 6.4 Blogging (Summer Term)</p>	<p><b>Technology In Our Lives</b></p> <p>To explain the available Internet services needed to use for different purposes.</p> <ul style="list-style-type: none"> <li>• To describe how information is transported across computer networks and on the Internet.</li> <li>• To select an appropriate tool to communicate and collaborate online.</li> <li>• To talk about the way search results are selected and ranked.</li> <li>• To check the reliability of a website by cross referencing.</li> <li>• To describe copyright and acknowledge the sources of information that are found online.</li> </ul>

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