

Computing Curriculum Objectives - Franche Primary School



		Personal, Social and Emotional Development	Physical Development	Expressive Arts and Design	
Reception	<p>The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas.</p> <p>These statements from the 2020 Development Matters are prerequisite skills for computing within the national curriculum. The table below outlines the most relevant statements that match the programme of study for computing.</p>	<ul style="list-style-type: none"> Show resilience and perseverance in the face of a challenge. Be confident to try new activities and show independence, resilience and perseverance in the face of challenge. Explain the reasons for rules, know right from wrong and try to behave accordingly. 	<ul style="list-style-type: none"> Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Know and talk about the different factors that support their overall health and wellbeing: sensible amounts of 'screen time'. 	<ul style="list-style-type: none"> Explore, use and refine a variety of artistic effects to express their ideas and feelings. Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. 	
	Technology around us	Creating media	Programming	Data and information	E-Safety
Enquiry questions:	How does technology make our lives easier?	How can I be creative and express myself with technology?	How can I use technology to make things happen?	How can technology help me organise information?	How can I stay safe online and be a good digital citizen?
Year 1	<p>I can... Explain technology as something which helps us.</p> <p>Locate examples of technology in the classroom.</p> <p>Name main parts of a computer.</p> <p>Use a mouse to click, drag and create.</p> <p>Use a keyboard to type my name and delete letters.</p> <p>Save and open my work.</p> <p>Switch on and log onto a computer.</p>	<p>I can... Use paint tools to draw a picture.</p> <p>Make marks using the square and line tools (including dots of colour).</p> <p>Change the colour and brush size and choose appropriate shapes and colour.</p> <p>Explain the different jobs paint tools do.</p> <p>Spot the difference between painting on the computer and on paper. Discuss preferences.</p>	<p>I can... Predict and match the outcome of a command on a device.</p> <p>Run a command or program on a device.</p> <p>Follow instructions and give directions.</p> <p>Compare, sequence and predict forwards and backwards movements and turns.</p> <p>Explain what my program should do.</p> <p>Begin to debug my program.</p>	<p>I can... Identify the label for a group of objects.</p> <p>Count, group and record objects.</p> <p>Discuss the properties of an object or groups of objects.</p> <p>Count how many objects share a property.</p> <p>Decide how to group objects to answer a question.</p> <p>Compare groups of objects.</p>	<p>I can... Keep my password private.</p> <p>Tell you what personal information is.</p> <p>Tell an adult when I see something unexpected or worrying online.</p> <p>Talk about why it's important to be kind and polite.</p> <p>Recognise an age appropriate website.</p>

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	Use a computer responsibly.	Use a keyboard to type words. Explain what the keys do. Identify the tool bar and use bold, italic and underline features as well as change the font. Select text by clicking and dragging. Use undo to remove changes. Explain the differences between typing and writing.	Plan 2 programs that get to the same place. Use commands to move a sprite and add and delete a sprite. Compare programming tools. Use a start block and join blocks together, creating an algorithm. Make changes to my program.		Agree and follow sensible e-Safety rules.
	IT around us	Creating media	Programming	Data and information	E-Safety
Enquiry questions:	How does technology make our lives easier?	How can I be creative and express myself with technology?	How can I use technology to make things happen?	How can technology help me organise information?	How can I stay safe online and be a good digital citizen?
Year 2	<p>I can... Identify computers and describe their uses.</p> <p>Identify that a computer is part of IT and other examples of IT.</p> <p>Talk about the uses of IT and how we can use it in different ways.</p> <p>Demonstrate how IT devices work together.</p> <p>Talk about the different rules for using IT.</p>	<p>I can... Explain the process of taking a good photograph.</p> <p>Take photos in landscape and portrait.</p> <p>Identify what is wrong with a photograph and retake it to improve.</p> <p>Explore the effect that light has on a photo.</p> <p>Use tools to create changes to images.</p> <p>Recognise when a photo has been changed.</p> <p>Identify differences in music and describe it.</p>	<p>I can... Follow and give clear instructions.</p> <p>Use the same instructions to create different algorithms.</p> <p>Plan and use an algorithm to program a sequence on a floor robot.</p> <p>Show the differences in the outcomes between 2 sequences.</p> <p>Predict and change the outcome of a sequence of commands.</p> <p>Design and create my own mat and identify different routes around it.</p> <p>Test and debug my program.</p>	<p>I can... Record data in a tally chart and use it to create pictograms.</p> <p>Compare totals in a tally chart.</p> <p>Enter data into a computer.</p> <p>Use pictograms to answer simple questions.</p> <p>Use attributes to help me create my pictograms.</p> <p>Use a computer program to present information in different ways.</p>	<p>I can... Explain why I need to keep my password and personal information private.</p> <p>Describe the things that happen online that I must tell an adult about.</p> <p>Talk about why I should go online for a short amount of time.</p> <p>Talk about why it is important to be kind and polite online and in real life.</p> <p>Begin to understand that not everyone is</p>

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		<p>Create and play a rhythm pattern.</p> <p>Use a computer to experiment with pitch.</p> <p>Refine my musical pattern on a computer.</p> <p>Create rhythm on a computer.</p> <p>Make changes to my work.</p>	<p>Show how to run my program.</p> <p>Build a sequence of blocks I need.</p> <p>Choose background and characters for my design.</p> <p>Improve my program.</p>		<p>who they say they are on the Internet.</p>
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	IT around us	Creating media	Programming	Data and information	E-Safety
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Year 3	<p>I can... Explain that digital devices have inputs and outputs.</p> <p>Describe a simple process.</p> <p>Design a digital device and explain why we use one.</p> <p>Compare digital devices vs non-digital devices.</p> <p>Recognise different connections and explain how they work.</p> <p>Discuss what a computer network is and how it works.</p> <p>Explain the role of a switch, server, and wireless access point in a network.</p> <p>Identify networked devices around me and the benefits of them.</p>	<p>I can... Create an effective flip book–style animation and explain how it works.</p> <p>Predict what an animation will look like.</p> <p>Create an effective stop frame animation.</p> <p>Create a storyboard for an animation.</p> <p>Use onion skinning to help me make small changes between frames.</p> <p>Check, evaluate and improve my animation.</p> <p>Add other media to my animation.</p> <p>Explain the uses of text and images on desktop publishing.</p> <p>Edit text – font/style/colour.</p> <p>Create a template on desktop publishing and make changes.</p> <p>Put content onto a template using different tools.</p> <p>Create a layout on desktop publishing and make changes.</p> <p>Discuss the use of desktop publishing in the real world.</p>	<p>I can... Explain how we use Scratch – objects, commands, attributes.</p> <p>Create a Scratch programme following a design.</p> <p>Start a programme (in different ways).</p> <p>Create a sequence of connected commands.</p> <p>Explain that my objects will respond to the commands.</p> <p>Combine sound commands.</p> <p>Make design choices for my artwork.</p> <p>Implement my algorithm as code.</p> <p>Move a sprite in four different ways.</p> <p>Use a programming extension.</p> <p>Choose blocks to use for my program.</p> <p>Develop my program by adding feature.</p> <p>Identify and fix bugs in my program.</p> <p>Design and create a maze-based challenge.</p>	<p>I can... Select an attribute to separate objects into groups.</p> <p>Create a group of objects in an existing group.</p> <p>Arrange objects into a tree structure.</p> <p>Select objects to arrange in a branching database.</p> <p>Group objects using yes/no questions.</p> <p>Test my branching database.</p> <p>Compare branching databases.</p> <p>Create a physical version of a branching database.</p> <p>Create questions for a branching database.</p>	<p>I can... Talk about what makes a secure password and why they are important.</p> <p>Protect my personal information when I do different things online.</p> <p>Use the safety features of websites as well as reporting concerns to an adult.</p> <p>Recognise websites and games appropriate for my age.</p> <p>Make good choices about how long I spend online.</p> <p>Ask an adult before downloading files and games from the Internet.</p> <p>Post positive comments online.</p>
	IT around us	Creating media	Programming	Data and information	E-Safety

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Enquiry questions:	How does technology make our lives easier?	How can I be creative and express myself with technology?	How can I use technology to make things happen?	How can technology help me organise information?	How can I stay safe online and be a good digital citizen?
<p>Year 4</p>	<p>I can... Describe how networks physically connect to other networks. Recognise how networked devices make up the internet. Explain how information can be shared via the World Wide Web (WWW). Describe how content can be added and accessed on the WWW. Recognise how the content of the World Wide Web is created by people. Evaluate the reliability of information found on the internet.</p>	<p>I can... Identify that sound can be recorded – finding the input and output sources. Use a computer to record audio. Edit and improve my recording. Recognise the different parts of creating a podcast project – plan, save and edit. Review and improve my recording. Combine audio to enhance my podcast project. Use photo editing software to edit an image – rotate, size, colour. Explain how cloning can be used in photo editing. Use a range of tools to copy between images. Create a project that is a combination of other images. Evaluate how changes can improve an image.</p>	<p>I can... Program a computer by typing commands and change a value of a command. Use a template to draw what I want my program to do. Write an algorithm to produce a given outcome. Test my algorithm in a text-based language. Use a count-controlled loop to produce a given outcome. Modify a count-controlled loop to produce a given outcome. Use a procedure in a program and explain that a computer can repeatedly call a procedure. Design a program that includes count-controlled loops, repetition and debug it. Predict the outcome of a snippet of code and modify. Use both a count-controlled and an infinite loop at once. Use repeated actions. Modify an infinite loop in a given program.</p>	<p>I can... Choose a data set to answer a given question. Suggest questions that can be answered using a given data set. Use a digital device to collect data automatically. Understand how a data logger works. Recognise how a computer can help us analyse data. Use a data logger and analyse the data I have collected.</p>	<p>I can... Choose a secure password and appropriate screen name when I am using a website. Talk about the ways I can protect myself and my friends from harm online. Use the safety features of websites as well as reporting concerns to an adult. Know that anything I share online can be seen by others. Choose websites, apps and games that are appropriate for my age. Help my friends make good choices about the time they spend online. Talk about why I need to ask a trusted adult before downloading files and games from the Internet. Comment positively and respectfully online and through text messages.</p>

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Enquiry questions:	How does technology make our lives easier?	How can I be creative and express myself with technology?	How can I use technology to make things happen?	How can technology help me organise information?	How can I stay safe online and be a good digital citizen?
Year 5	<p>I can...</p> <p>Show that systems are built using a number of parts.</p> <p>Describe the input, process and output of a digital system.</p> <p>Explain that computer systems communicate with other devices.</p> <p>Identify tasks that are managed by computer systems.</p> <p>Explain the benefits of a computer system.</p> <p>Identify human elements of a computer system.</p> <p>Use a web search to find information.</p> <p>Compare results from different search engines.</p> <p>Explain why we need tools to find things online.</p> <p>Explain how search results are ranked and influenced.</p> <p>Begin to explain how search engines make money.</p>	<p>I can...</p> <p>Identify and compare features of videos.</p> <p>Identify and find features on a digital video recording device.</p> <p>Recognise and experiment with different camera angles.</p> <p>Suggest filming techniques for a given purpose and use them to capture video.</p> <p>Review how effective my video is.</p> <p>Outline the scenes of a video.</p> <p>Create and save video content.</p> <p>Store, retrieve and export my recording to a computer.</p> <p>Explain how to improve a video by reshooting and editing.</p> <p>Review and make edits to a video explaining how.</p> <p>Recognise vector drawings are made using shapes.</p>	<p>I can...</p> <p>Create a simple circuit.</p> <p>Program a micro controller to make an LED switch on.</p> <p>Explain what an infinite loop does.</p> <p>Connect more than one output component</p> <p>Use and design a count-controlled loop to control outputs.</p> <p>Explain that a condition is either true or false.</p> <p>Design a conditional loop.</p> <p>Program a microcontroller to respond to an input.</p> <p>Explain that a condition being met can state an action and identify them.</p> <p>Use selection (If, then and if, then else statements).</p> <p>Create a drawing of my project and describe what it will do.</p> <p>Test and debug my project.</p> <p>Recall how conditions are used in selection.</p>	<p>I can...</p> <p>Create a database using cards.</p> <p>Explain how information can be recorded.</p> <p>Order, sort and group my data cards.</p> <p>Explain what a field and a record in a database is.</p> <p>Navigate a flat-file database.</p> <p>Choose which field to sort data by to answer a given question.</p> <p>Explain that data can be grouped and use this to answer questions.</p> <p>Outline how AND and OR can be used to refine data selection including filters.</p> <p>Select an appropriate chart to visually compare data.</p> <p>Ask questions that will need more than one field to answer.</p> <p>Present my findings to a group.</p>	<p>I can...</p> <p><u>Choose a secure password and screen name.</u></p> <p><u>Protect my password and other personal information.</u></p> <p><u>Explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult.</u></p> <p><u>Understand that anything I post online can be seen used and may affect others.</u></p> <p><u>Talk about the dangers of spending too long online or playing a game.</u></p> <p><u>Explain the importance of communicating kindly and respectfully.</u></p> <p><u>Discuss the importance of choosing an age-appropriate website, app or game.</u></p> <p><u>Explain why I need to protect my computer or device from harm.</u></p>

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		<p>Experiment with shape and line tools.</p> <p>Explain each element added to a vector drawing is an object.</p> <p>Move, resize, rotate and modify an object that is duplicated to create a new image.</p> <p>Use the zoom tool.</p> <p>Explain how alignment grids help.</p> <p>Identify each new object creates a new layer.</p> <p>Change the order of layers and use layering to create an image.</p> <p>Group and ungroup objects.</p>	<p>Identify and modify a condition in a program.</p> <p>Use selection in an infinite loop.</p> <p>Explain that a program flow can branch according to a condition.</p> <p>Identify the outcome of user input in an algorithm.</p> <p>Share my program with others.</p> <p>Identify ways the program could be improved.</p> <p>Extend my program further.</p>		
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Year 6	<p>I can...</p> <p>Recognise that data is transferred using agreed methods.</p> <p>Explain that internet devices have addresses and how computers use these to access websites.</p> <p>Identify and explain the main parts of a data packet and that it is transferred over a network or the internet in this way.</p> <p>Recognise how to access shared files stored online.</p> <p>Send information over the internet in different ways.</p> <p>Explain that the internet allows different media to be shared.</p> <p>Identify different ways of working together online.</p> <p>Explain that the internet enables effective and different ways of collaboration.</p> <p>Compare different methods of communicating.</p> <p>Decided when I should and should not share information on the internet as it may not be private.</p>	<p>I can...</p> <p>Explore a website and discuss the different media used.</p> <p>Know that websites are written in HTML.</p> <p>Recognise the common features of a webpage.</p> <p>Suggest media to include on my webpage.</p> <p>Explain why we should use copyright-free images.</p> <p>Find copyright-free images.</p> <p>Describe what is meant by fair use.</p> <p>Add content and preview my own webpage.</p> <p>Evaluate how it looks on different devices.</p> <p>Explain what a navigation path is and why it is useful.</p> <p>Create hyperlinks.</p> <p>Explain the implications of linking to content owned by others.</p>	<p>I can...</p> <p>Identify information that is a variable and that they can hold numbers or letters.</p> <p>Explain that a variable has a name and a value.</p> <p>Recognise that the value of a variable can be changed.</p> <p>Make use of an event to set a variable.</p> <p>Decide where and when to change a variable.</p> <p>Create algorithms for my project.</p> <p>Use variables to extend my game.</p> <p>Apply knowledge of programming to a new environment.</p> <p>Identify examples of conditions in the real world.</p> <p>Use variable (If, then else statements) and explain the importance of these.</p> <p>Determine the flow of a program.</p> <p>Use a conditional statement.</p>	<p>I can...</p> <p>Collect and enter data into a spreadsheet.</p> <p>Suggest how to structure data.</p> <p>Explain what data is.</p> <p>Choose and apply an appropriate format to a cell.</p> <p>Explain which data types can be used in calculations.</p> <p>Construct a formula in a spreadsheet.</p> <p>Identify changing inputs changes outputs.</p> <p>Create a formula that includes a range of cells.</p> <p>Use duplication.</p> <p>Use a spreadsheet to answer questions including using formulas.</p> <p>Produce a chart.</p>	<p>I can...</p> <p>Protect my password and other personal information.</p> <p>Explain the consequences of sharing too much about myself online.</p> <p>Support my friends to protect themselves and make good choices online, including reporting concerns to an adult.</p> <p>Explain the consequences of spending too much time online or on a game.</p> <p>Explain the consequences to myself and others of not communicating kindly and respectfully.</p> <p>Protect my computer or device from harm on the Internet.</p>

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		<p>Add, view and move 3D shapes in a project.</p> <p>Resize an object in three dimensions.</p> <p>Lift, lower and colour 3D objects.</p> <p>Rotate, duplicate and group 3D objects.</p> <p>Accurately size 3D objects</p> <p>Combine a number of 3D objects.</p> <p>Analyse a 3D model.</p> <p>Construct a 3D model.</p> <p>Explain how the 3D model could be improved and modify it.</p>	<p>Experiment with physical inputs.</p> <p>Use a comparison operator (e.g. $\diamond =$) in an if, then statement.</p> <p>Modify a program to achieve a different outcome.</p> <p>Decide what variables to include in a project.</p> <p>Design the algorithm for my project.</p> <p>Create a program based on my design.</p> <p>Test my program against my design.</p> <p>Use a range of approaches to find and fix bugs.</p>		
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