

Computing: Progression of Skills



EYFS	Computer Science	Information Technology	Digital Literacy
Nursery	<ul style="list-style-type: none"> Use robots to follow simple instructions. Learn how digital toys and apps work through exploration. Learn that repeated actions have effect. (effective teaching and learning) Draw information from a simple map. (Understanding the world) 	<ul style="list-style-type: none"> Know how to use a painting app. Explore paint and brush tools. Develop their own ideas and then decide which materials to use to express them. (Expressive arts and design) Create closed shapes with continuous lines and begin to use these shapes to represent objects. (Expressive arts and design) Draw with increasing complexity and detail, such as representing a face with a circle and including details. (Expressive arts and design) Explore colour and colour mixing (Expressive 	<ul style="list-style-type: none"> Use age appropriate apps and devices. Ask for permission to use a device.
Reception	<ul style="list-style-type: none"> Understand algorithms are a sequence of instructions. Follow simple instructions (Algorithms) . Make simple algorithms by sequencing actions. Explain my thought process and explain my reasons (Logical thinking). Explain what is the same and what is different (Pattern). Use robots to follow simple instructions. Learn how digital toys and apps work through exploration. Input more than one command into a programmable toy or app. 	<ul style="list-style-type: none"> Know how to use a painting app. Explore paint and brush tools. Explore, use and refine a variety of artistic effects to express their ideas and feelings. (Expressive arts and design) 	<ul style="list-style-type: none"> Use age appropriate apps and devices. Identify some simple examples of my personal information (name, address, birthday, age, location) Describe who would be trustworthy to share this information with. Explain why they are trusted. Identify rules that help keep us safe when using technology. Give examples of some simple examples of these rules.

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KS1	<p><u>Computational Thinking</u></p> <ul style="list-style-type: none"> Understand what algorithms are. Write simple algorithms for everyday tasks. Understand that the sequence of algorithms is important. Use logical reasoning to predict the outcome of an algorithm. Understand that decomposition is breaking objects/ processes down. Debug simple algorithms <p><u>Coding/Programming</u></p> <ul style="list-style-type: none"> Sequence instructions in the correct order. Follow precise instructions Use a sequence in a program Use logical reasoning to predict the outcome of the program. Simplify programs by using loops. Program simple outputs for audio or text. Program using selection and conditions. 	<p><u>Animation</u></p> <ul style="list-style-type: none"> Understand what animation is. Add backgrounds to a frames. Clone objects/ frames. Add filters and stickers to enhance animation. Add pictures that the child has taken to an animation. Move multiple objects simultaneously. Create a screen recording. Crop photos and adjust points of movement. <p><u>Photo editing</u></p> <ul style="list-style-type: none"> Know how to edit a photo with simple tools (crop, filter, mark up). Use an age appropriate app to create a digital image. Layer an image onto another image. 	<ul style="list-style-type: none"> Understand what the internet is and how people use it. Understand what personal information is and why we keep personal information private. Explain how passwords can be used to protect information, accounts and devices. Explain and give examples of what is meant by 'private' and 'keeping things private' Explain how information put online about someone can last for a long time. Describe how anyone's online information could be seen by others Identify when and where to go for help when concerned.

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LKS2	<p><u>Computation thinking</u></p> <ul style="list-style-type: none"> Decompose projects into small steps to create algorithms. Understand abstraction is focusing on the important information. Identify patterns in an algorithm. Write more precise algorithms. Use simple selection and repetition. Use logical reasoning to detect and correct errors. <p><u>Coding/ Programming</u></p> <ul style="list-style-type: none"> Design and create a program. Create a sequence of code. Work with a range of inputs and outputs. Use logical reasoning to detect and correct errors on programs. Use repetition in programs. Use simple selection in programs. Evaluate my program and make improvements. 	<p><u>Comic Creation</u></p> <ul style="list-style-type: none"> Add backgrounds and resize to suit the platform. Include characters in different panels. Add text as narration, using speech bubbles for direct speech. Use the fill tool. Combine shapes and lines and arrange them appropriately. Use making tools to adapt the opacity. Save files with an appropriate title. <p><u>Video editing</u></p> <ul style="list-style-type: none"> Understand what photographs are and use appropriate images in videos. Include more than one page. Sequence clips of mixed media into a timeline. Include recorded voice overs. Add music to a creation. Trim and cut clips. Use transitions. Understand what export means and export projects to an appropriate format. 	<p><u>Online relationships</u></p> <ul style="list-style-type: none"> Describe ways people can get together online. Give examples of how to be respectful online. Explain why it is important to be careful about who is trusted online. Explain how someone's feelings can be hurt by what is said/ written online. Explain the importance of giving/ gaining permission before sharing things online. Recognise healthy and unhealth online behaviours. Explain shared content can be important to peoples thoughts, feelings and beliefs. <p><u>Copyright</u></p> <ul style="list-style-type: none"> Explain why copying someone else's work without permission isn't fair and can explain a problem it may raise. Understand that some content cannot be used with out permission from the owner.

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LKS2	<p><u>Networks</u></p> <ul style="list-style-type: none"> Understand that computers are connected together in a network. Understand why computers are networked. Know that servers on the Internet are located across the planet. Recognise and understand the different between the Internet and WWW. Understand how webpages are viewed across the internet. <p><u>Artificial Intelligence</u></p> <ul style="list-style-type: none"> Understand that data is used to train AI technology. Know the basics of machine learning. Understand that computers can be trained to simulate computer-like abilities. Train an AI model. Investigate how data can make a model more accurate. Understand 'big-data' and how it is used to inform decision-making and improve machine learning. 	<p><u>E-books</u></p> <ul style="list-style-type: none"> Use sound, formatted text and video. Annotate images. Resize images to ensure that they are suitable Understand what a hyper link is Create hyperlinks to link pages together. Understand what a background is and how to change it 	<p><u>Health, Well-being and Lifestyle</u></p> <ul style="list-style-type: none"> Understand why too much time on the internet has a negative impact. Give examples of positive and negative activities. Understand that technology can be a distraction . Recognise why online platforms have age restrictions. Understand that who I can talk to if I feel uncomfortable online. Identify situations why time online may need to be limited. Suggest strategies to limit time spent online.

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UKS2	<p><u>Computational Thinking</u></p> <ul style="list-style-type: none"> Decompose a design or code to focus on specific parts Use abstraction to hide complexity. Recognise and make use of patterns Critically evaluate my work and suggest improvements. <p><u>Programming</u></p> <ul style="list-style-type: none"> Create a program by decomposing them in to smaller parts. Use a range of sequences, selection and repetition commands to implement my design. Use a variety of selection commands in programs. Use conditions in repetition commands. Understand how to work with variables. Create procedures to hide complexity in programs. Create programs that control or simulate physical systems. Critically evaluate work, identify errors and suggest improvements 	<p><u>Web Design</u></p> <ul style="list-style-type: none"> Use collaboration tools to plan. Explore a web design platform. Understand what a homepage is. Create a site identity. Include text and multiple types of media. Use hyperlinks to link multiple pages. Understand what embed means. Embed videos into webpages. <p><u>Podcasts</u></p> <ul style="list-style-type: none"> Record a sound. Edit a sound so it is fit for purpose using volume, pitch., fade and effect. Use tools to remix sounds/ music that currently exist. Compose and record a sound. <p><u>App design</u></p> <ul style="list-style-type: none"> Understand what import means. Import text and images. Use different forms of navigation. Link multiple pages together. <p><u>AR/VR</u></p> <ul style="list-style-type: none"> Understand what AR/VR is. Explain when AR/VR can be used. Explain how AR/VR works. Create animated objects. Insert animated objects into surroundings using AR. 	<p><u>Managing Online Safety</u></p> <ul style="list-style-type: none"> Explain the benefits and limitations of using different types of search technologies . Explain how some technology can limit the information presented. Give examples of when and why it is important to be 'skeptical' Evaluate digital content Identify, flag and report inappropriate content. <p><u>Copyright and Ownership</u></p> <ul style="list-style-type: none"> Assess and justify when it is acceptable to use others work. Understand what content is permitted to be reused. Give examples of content that can be reused. Demonstrate how to acknowledge sources used from the internet.