

Computing Knowledge and Skills Year 4

By the end of Year 4 the children should be able to:

Programming and Physical Computing

- describe what inputs and outputs are, giving examples. I can use inputs and outputs within visual code to create a jukebox with limited assistance
- describe what a circuit is. I can create a program for a physical system using a circuit with limited assistance.
- demonstrate my understanding of circuits to set up a physical system with more than one input to play music with support.
- create and program a physical system using a circuit with more than one input with limited assistance.
- create a physical system using a range of sensors with limited assistance
- make evaluative comments on a physical system with limited assistance.

Multi-media Computing

- describe what hyperlinks, media and multimedia are. I can create an interactive multimedia quiz question in presentation software with limited assistance
- describe what a master slide is. I can use a master slide to add a theme to a presentation with limited assistance.
- describe how and why we would add audio to a presentation. I can add a range of audio types to a presentation with limited assistance.
- describe what a slide transition is and why we might use them. I can add slide transitions to a presentation with limited assistance.
- describe what accessibility means. I can use colour, text, and voiceover with limited assistance to make my presentation accessible.
- test and improve my presentation with limited assistance.

Computer Systems and Networks

- describe common features in computer game character design with limited assistance. I can use the internet to research and show my findings with limited assistance.
- describe what Computer Aided Design software is and how it's used. I can use CAD software to create a range of 3D shapes and manipulate their height, width and positioning with limited assistance.
- describe what a 3D printer is and how it uses solid and holes in computer aided design software. I can use CAD software to create a range of 3D solid and hollow shapes and manipulate them with limited assistance.
- describe what the orthographic view is. I can use CAD software to create a 3D computer game world using the orthographic view with limited assistance.
- describe the design choices for my 3D model. I can use computer aided design software to create a 3D model of a character independently using a range of skills.
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Date Information and Modelling

- describe what spreadsheet formatting is. I can create a spreadsheet and format it with limited assistance.
- describe what a spreadsheet function is. I can input data into a spreadsheet from an external source with limited assistance.
- describe what a range of spreadsheet functions do. I can use a range of spreadsheet functions with limited assistance.
- create a more complex spreadsheet and use creative formatting techniques with limited assistance.
- input more complex data from an external source with limited assistance.
- be creative in my use of spreadsheet functions to analyse data with limited assistance.

Digital Citizenship

- explain how my online identity can be different to the identity I present in 'real life'. I can describe the right decisions about how I interact with others and how others perceive me. I can give examples of how to be respectful to others online. I can describe strategies for safe and fun experiences in a range of online social environments. I can create sprites and backgrounds for a digital citizenship computer game with limited assistance
- describe how others can find out information about me by looking online. I can explain ways that some of the information about me online could have been created, copied or shared by others. I can code a digital citizenship computer game to ask questions about sharing information online with limited assistance.
- analyse information and differentiate between 'opinions', 'beliefs' and 'facts'. I understand what criteria have to be met before something is a 'fact'. I can describe how I can search for information within a wide group of technologies. I can explain why lots of people sharing the same opinions or beliefs online does not make those opinions or beliefs true. I can code a digital citizenship computer game to ask questions about facts, opinions and beliefs online with limited assistance.
- identify some online technologies where bullying might take place. I can describe ways people can be bullied through a range of media. I can explain why I need to think carefully about how content I post might affect others, their feelings and their reputation. I can code a digital citizenship computer game to ask questions about cyberbullying with limited assistance.
- describe some of the methods used to encourage people to buy things online. I can explain that some people I 'meet online' (e.g. through social media) may be computer programmes pretending to be real people. I can code a digital citizenship computer game to ask questions about online tricks with limited assistance.
- explain what a strong password is and describe ways to keep it private. I can explain that privacy settings can be used to keep information private online. I can code a digital citizenship computer game to ask questions about online privacy with limited assistance.