PKF

COMPUTING

Skills Progression Grids for Parkland Infant School and Parkland Junior School

INTENT

Our computing vision at Parkland is to have students who excel at all levels of computing from basic keyboard and mouse skills through to advanced online interactive coding. All underpinned with a strong online safety skill set.

We see our digital world as a place, where with the right tools all of our students can stand out as having consistently exceptional computing knowledge. In order to achieve this we are investing heavily into computing technologies at the school as well as having a dedicated computing lead teacher, giving our students the best possible digital learning.

As an entire school workforce from teachers through to trustees we actively teach and engage with the students to ensure that as a whole community we are comprehensively knowledgeable about the current and future digital world that the students do and will live in and how best to thrive in that environment.

Aim high, work hard, dream BIG!

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IMPLEMENTATION AND ASSESSMENT

Our computing curriculum is taught to every class through the whole school from our reception students right the way up to year 6. Our students benefit from a bespoke specialised IT lessons that cover aspects from e-safety, coding, robotics, and the digital world.

We look at hardware and software both in our school as well as from around the world we live in and how it all connects together.

To complement our specialised IT suite that is equipped with computers, laptops, chromebooks, robots, drones and virtual reality headsets we also have laptops and ipads available to the classes to use through the rest of the curriculum to further enhance their learning.

Aim high, work hard, dream BIG!

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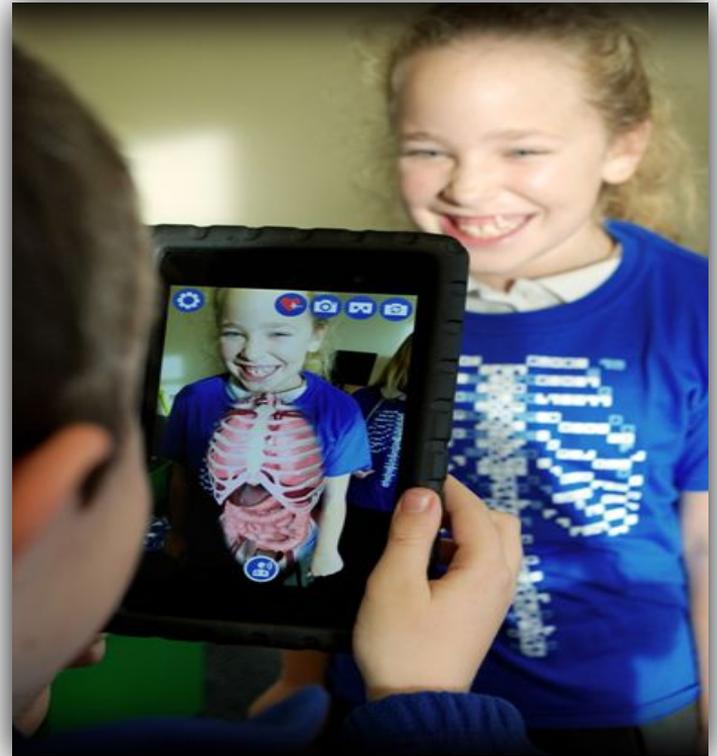
IMPLEMENTATION AND ASSESSMENT

Our computing curriculum is taught at all ages by our specialist computing teacher, ensuring that every one of our pupils gets the best start in the digital world that we live in. Every child has classes in our specialist IT suite with access to cutting edge computing resources and education which results in them getting the best chance to excel in ICT as the progress into secondary education.

ICT E-safety is promoted throughout school. We also have representative students from years 3-6 who participate in the Childnet digital leaders programme who meet every week with the specific purpose of educating and disseminating messages about e-safety throughout the school.

To ensure consistency and curriculum coverage we assess against criteria through our bespoke online assessment system.

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Key Stage	Year Group	Digital World	Programming	Electronic Safety	Data Handling	Programming 2	Digital Presentation
Key Stage 1	1	I can name the external parts of a computer and talk about what they do. I can identify a range of technologies around me. I can identify the basic functions of a Qwerty keyboard to include backspace, delete, cap lock, shift and enter. I can use the correct fingers on the correct keys when typing. I can locate and open digital work. I can explain what to do if something makes me unhappy on a computer, tablet or phone (**e-safety link**).	I can organise an algorithm into the most logical sequence. I can test an algorithm to see if it works properly. I can create an algorithm. I can convert an algorithm to a Logo program. I can locate faults in a Logo program.	I can explain what personal information is. I can identify what might make someone a trustworthy person. I can judge if someone is trustworthy or not. I can explain what the 'uh-oh' feeling means when online. I can demonstrate my knowledge of e-safety.	I can examine a pictogram and interpret the information it gives me. I can convert pictogram data to a spreadsheet. I can reference a cell in a spreadsheet and examine the data in it. I can change a cell colour to highlight particular information. I can gather my own data and present it on a spreadsheet. I can convert spreadsheet data into a pictograph.	I can create a light sequence on a robot. I can use a delay into a program to make it behave in a specific way. I can improve a program by editing it I can edit a robot's program so it works efficiently, even in difficult conditions. I can add a further instruction to a successful program, making more complex.	I can use digital paint tools and colours to create images. I can use a range of digital animation tools. I can create a sequence of animated frames. I can use more advanced animation tools to make an animation more complex. I can independently creating a digital animation of my choice. I can present my digital work to an audience and explain how I achieved my endpoint.

Key Stage	Year Group	Digital World	Programming	Electronic Safety	Data Handling	Programming 2	Digital Presentation
Key Stage 1	2	I can explain why the external parts of a computer are input or output devices. I can identify digital output devices around me. I can demonstrate how technology can make some tasks easier. I can use more advanced keyboard functions such as 'Shift'. I can use a range of fonts, font sizes and font colours to improve a digital presentation. I can explain what to do if something makes me unhappy on a computer, tablet or phone (**e-safety link**).	I can write precise instructions, using Logo. I can write a Logo program that has a purpose. I can locate and debug faults in a Logo program. I can use a repeat instruction in a Logo program. I can read and interpret an unfamiliar Logo program.	I can give an example of how to deal with an e-safety worry. I can explain why I should keep my personal details private. I know what to do when someone chats to me online. I can explain why it is important to think about other people's feelings online. I can explain why I should check with an adult before playing online games. I can suggest ways to improve our school's e-safety.	I can transfer tally data into a spreadsheet. I can improve a spreadsheet by formatting cells. I can create a basic formula. I can present my own data on a spreadsheet. I can convert data into a digital graph or chart.	I can find different ways to start a program. I can control the movement of an object in a program. I can make an object interact with its environment. I can program instructions to repeat as many times as I decide. I can debug a simple program.	*Using ideas from Eduardo Paolozzi artwork* I can digitally research the work and style of an artist. I can use digital tools to mimic the style of a known artist. I can use technology to contribute to a piece of group work. I can create a simple algorithm related to a specific task.

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Key Stage 2	3	I can explain what an e-safety worry is and how to deal with them. I can successfully log into a digital account. I can confidently navigate and use my digital accounts. I can locate and edit digital work and folders. I can communicate digitally in a way that is mindful of our school values. I can peer assess work using digital collaboration tools.	I can identify the sequence of steps in a program needed to reach an endpoint. I can use a greater number of instructions to make a robot perform specific actions. I can identify where to use a repeat function and explain why I used it. I can create a complex program, debugging as I go. I can adapt and modify a complex program, debugging as I go.	I can explain what an e-safety worry is and how to deal with them. I can explain what to do when a stranger contacts me online. I can explain why some digital games are not appropriate for my age. I can explain what to do when I see something inappropriate online. I can explain what a digital footprint is. I can suggest ways to improve our school's e-safety.	I can organise data efficiently using a spreadsheet. I can locate specific cells. I can program cells to add up values. I can collect data in order to calculate and analyse data. I can generate my own data, present my findings and draw conclusions.	I can identify the start and endpoint in a Scratch sequence I can program a repeat and explain why I have used it. I can programme a sequence in Scratch involving a user input to create a specific output. I can programme objects to interact. I can program objects to interact with each other.	*Using ideas from Andreas Gursky photography* I can search and save specific information or media for a particular purpose. I can use digitally create work for a specific purpose. I can modify and manipulate a digital image for a specific purpose. I can confidently use a range of advanced digital art tools. I can showcase digital art work create from a brief.

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Key Stage 2	4	I can explain what the World Wide Web is. I can explain what the internet is and how it relies on the World Wide Web. I can hyperlink text and images in my work. I can illustration of the how the internet works. I can use advanced web search features	I can design a program that makes a robot complete a simple task. I can use logical reasoning to predict the behaviour of a program. I can convert an algorithm into a program. I can find and fix errors in a program. I can read a program fluently.	I can explain what an e-safety worry is and how to deal with them. I can explain with an app that asks for my personal or device information. I can voice opinions on of age restrictions for digital games. I can explain the impact of a negative digital footprint. I can write a digital post blog without giving away personal information. I can suggest ways to improve our school's e-safety.	I can sort data into the right columns and rows. I can write a 'SUM' formula. I can use the drag feature to autocomplete a formula in multiple cells. I can use conditional formatting to highlight specific information. I can analyse a spreadsheet and draw conclusions.	I can place flowchart blocks in a logical way in Flowol to get a specific output. I can programme a loop in Flowol. I can place a delay in a Flowol sequence and explain its role. I can run two separate sequences, in Flowol, that work to achieve a combined output. I can fragment a system in Flowol to identify and debug errors. I can create multiple sequences that work together to make a system.	*Using ideas from Darren Rowse photography* I can use technology to create and present my ideas. I can edit and improve a digital image. I can decide the best frame format when taking a picture. I can use the digital skills I have developed to create meaningful content. I can determine the best way to achieve impact on a piece of digital artwork.

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Key Stage 2	5	I can explain how the internet has evolved over time. I can explain how a local area network functions. I can explain the differences between wired, wireless and data connections. I can break down the internet into its components and explain their roles within the system. I can evaluate a piece of software.	I can locate and test motors that allow a robot to move. I can sequence a set of instructions using a logical order. I can trigger specific lines of code to operate motors when I want. I can make a robot respond in real time. I can create a pseudo random output.	I can explain what an e-safety worry is and how to deal with them. I can explain the dangers and need for age restrictions for digital games I can explain the dangers associated with giving away personal information online. I can explain some of the dangers associated with posting videos. I can find evidence to prove or disprove the content of a website. I can suggest ways to improve our school's e-safety.	I can write and use the most effective formula for a specific set of calculations. I can explain the differences between the Boolean, Text and Numeric data types. I can use a filter to find specific information. I can plan and build a spreadsheet that has a purpose.	I can recall the name of, and explain the use of, blocks used in Flowol. I can use a decision box in a sequence to allow more than one output. I can programme a variable output in Flowol. I can fragment a system into separate sequences and program those sequences. I can create a variable that is controlled by a set of delays that I have chosen to be appropriate.	I can work with 'X' 'Y' and 'Z' axis' to create a digital shape. I can use familiar CAD tools with more accuracy. I can add context to a CAD object by specifying and justifying what materials could be used in construction. I can use accurate measurements when designing a CAD model. I can use tools that help me create CAD objects to scale. I can use a wide range of CAD tools independently and accurately.

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Key Stage 2	6	I can identify the similarities and differences between a PC, laptop, tablet and smartphone. I can explain the role of a range of internal components in a digital device. I can disassemble a laptop and locate key internal components. I can evaluate the content of a website or webpage and use strategies to prove or disprove its validity. I can add purposeful hyperlinks, which I have vetted, to my work.	I can explore the history of Python Programming. I can open the Python IDLE programming environment and write a simple program. I can write several lines of code that output a message on more than one line in Python. I can debug a line of Python code. I can use the \n, \\, \" escape sequences, in Python. I can use a range of mathematical operators in Python.	I can explain the impact of cyberbullying and suggest support strategies for victims. I can suggest the importance of (and strategies for managing) a positive digital footprint. I can identify the dangers of video chatting. I can explain how to use digital content without infringing copyright. I can suggest ways to improve our school's e-safety.	I can use prior knowledge to create a spreadsheet that include formulas. I can use formula with an 'if' condition. I can use formulae with nested 'if.' conditions. I can use formulae with the 'vlookup' function. I can plan and build a spreadsheet that has a purpose. I can use prior knowledge to create a spreadsheet that include simple formulas.	I can use the if-then-else instruction. I can create a program that enables a robot to interact with a user. I can program relational operators to compare two values. I can create a program that performs a specific task.	I can demonstrate my prior knowledge of a CAD program. I can use specific digital tools for a purpose. I can use CAD to build a scaled model. I can use animation tools to highlight specific area of a CAD model. I can present a finished piece of CAD work.

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