Mendell Primary School

Aspire   Challenge   Achieve

Medium Term Plan Design Computing

Year Group: 2	Term: Autumn #1 2021	Teacher: Sarah Bride	Subject lead: Justin Cowley	Overview: Online safety and an introduction to programming: Chatting online, sharing images and videos. Advanced loops and 'when' statements
Links to other learning: PHSCE	Prior Learning: Y1: Children learnt what an algorithm is, what a bug is and how to debug an algorithm. Children were introduced to simple loops.	Future Learning: In Y3 children will be using algorithms to predict the behaviour of a computer, finding out about binary and using conditionals and events in their code.	Risk Assessment: Safeguarding	Teacher CPD: Please read the CEOP online safety toolkit prior to the lessons. You must complete level B of Code.org including watching the relevant videos included in the course. This must be completed prior to commencing teaching (https://studio.code.org/s/courseb-2017?section_id=3503834)

	Learning Intention	Real Life Links	Lesson Outline (Key Questions in colour)	Resources	Vocabulary	Lowest 20% Adaptations
1	- I know to ask permission before posting images or videos of others online - I know who to speak to if anything happens online that worries or upsets me		*Online safety* *Recap Year 1 – I know to tell a trusted adult / sharing images online / online gaming*	Large screen to show video CEOP lesson toolkit Worksheets 1 & 2	Online Images Videos Trusted permission	
2	- I know what an algorithm is		**Coding** **Code.org – Course B introduction**	Large screen to show video		

	- I can order blocks in a logical sequence		- As a class watch the videos 'Debugging' and 'Persistence' to recap last year's key learning. https://studio.code.org/s/courseb-2017/lessons/1/levels/1?section_id=3503834 and https://studio.code.org/s/courseb-2017/lessons/2/levels/1?section_id=3503834 Discuss any misconceptions. - We are going to relate the concept of algorithms back to real life by writing an algorithm to plant a seed. Instead of giving vague or over generalised instructions the children must break down the large activity into smaller more specific commands. From these commands, the children must determine a special sequence of instructions that will allow their classmate to plant a seed correctly. - Ask the children what they do each day to get ready for school (write these answers on the whiteboard). Put numbers next to each answer to indicate the order that they happen. If someone gives a response out of order, help them put them in some sort of logical order. Point out places where order matters and places where it doesn't. Introduce the children to the idea that it is possible to create algorithms for the things we do everyday (making breakfast, tying shoes, brushing teeth etc) - Provide each pair of children with resource 1. Children cut out the steps and work together to choose the correct six steps from the nine options. They must then decide on the correct order for the steps and stick them onto a piece of paper. Once completed swap their algorithm with another pair and use it to plant their seed. - Once all groups are completed, ask 'What would you have added to make the algorithm even better'? and 'What if the algorithm had been only one step . . .Plant the seed.'? - In their books, the children are to write in their own words what an algorithm is and how it can be used in everyday life.	Resource sheet 1 (in planning folder) Paper / plastic cup. Soil Seeds Water		
3 and 4	- I know that a loop is a repeated instruction - I know that loops reduce the amount of code needed to achieve a goal	Designer, inventor,	**Coding** **Code.org – Course B** - Recap simple loops. Ask the children to write a simple algorithm to instruct their partner to butter a slice of bread. Discuss their suggestions and write a shared algorithm on the board. Ask the children in pairs how they would change the algorithm if they wanted ten slices of bread buttering. - Discuss that they could just write the original algorithm out ten times but that would be very slow. Explain that they could use a repeat command and ask their partner to keep going until they reached ten slices of bread. This idea of repeating an instruction is called a 'loop' in programming. Key knowledge for teacher – a loop is a sequence of instructions that is continually repeated until a certain condition is reached. Typically, a certain process is done, such as getting an item of data, and then a condition is checked such as 'have I collected five lots of data?' Recap the need to keep passwords and user information secret. Give out each child's picture login. - Demonstrate how to access the internet (using Google Chrome on laptop or Safari on ipads). Show the children how to search for our school website and where to find the Code.org link. - Demonstrate how children access the lessons, what they must do to complete a lesson and how they move to the next lesson. Show children how to restart a lesson and what to do if they are stuck. - Children work through Course B during lessons 3-6. - In their books, the children are to write in their own words why loops are used in coding.	Large screen to show video Ipads or laptops (one per child)		
5 and 6	- I know what an event is - I can use an event to instruct the software to complete an action		**Coding** **Code.org – Course B (continued)** - Recap: Ask the children what a loop is. (An loop is a sequence of instructions that are repeated until a certain condition is met) - Write on the board 'When I blow my whistle, start jumping on the spot. When I clap my hands, stop jumping'. Ask the children to stand up and then switch between whistle blowing and clapping so that the children follow the instructions. Remind the children that they have been following an algorithm. The whistle blowing and clapping are called events. - Key knowledge for teacher – an event is an action or occurance, that is recognised by the software, as a result of the user or another source (for example, a mouse click is an event) - Recap the need to keep passwords and user information secret. Give out each child's picture login. - Recap how to access the internet (using Google Chrome on laptop or Safari on ipads). Show the children how to search for our school website and where to find the Code.org link.	Ipads or laptops (one per child) Whistle	Algorithm Programming Code Internet Google chrome Safari Event	

| | | | - Recap how children access the lessons, what they must do to complete a lesson and how they move to the next lesson. Show children how to restart a lesson and what to do if they are stuck.
- Children continue to work through Course B
- - In their books, the children are to write a sentence to describe what they have learnt from today's lesson.   Provide a sentence starter 'Today, in computing, I learnt . . . .' | | | |