

TERM: Autumn 2		YEAR GROUP: Year 2		SUBJECT: Computing- Computing systems and networks: Algorithms and debugging	
WEEK 1 DATE: WB 4.11.24	WEEK 2 DATE: WB 11.11.24	WEEK 3 DATE: WB 18.11.24	WEEK 4 DATE: WB 25.11.24	WEEK 5 DATE: 2.12.24	WEEK 6 DATE: 9.12.24
<p>LO: To decompose a game to predict the algorithms that are used.</p> <p>Success Criteria: I can understand what the terms decomposition and algorithm mean. I can decompose a game to predict algorithms. I can plan algorithms for a more complex game.</p> <p>Main event: Children will play a real-life version of the Scratch dinosaur move game, Children to follow instructions as the keys are pressed by moving left, right or jumping and (gently) bouncing off the wall if they bump into it. Children to complete Activity: Writing New Programs Sheet.</p> <p>Support: BBC Bitesize - All about algorithms to introduce the key vocabulary of algorithm and decomposition before the lesson; use the Knowledge organiser to check vocabulary throughout the lesson.</p> <p>Challenge: plan a game with a range of actions for the dinosaur during the Main event.</p>	<p>LO: To understand that computers can use algorithms to make predictions (machine learning).</p> <p>Success Criteria: I can explain what an algorithm is. I can explain that computers use algorithms to make predictions. I can write a clear and precise algorithm.</p> <p>Main event: children to write an algorithm (set of instructions). Children to give feedback to the pair who wrote the instructions about the algorithm's clarity and success. Children to make any necessary changes to make them more precise.</p> <p>Support: Should rebuild their model as they write the algorithm to ensure steps are not missed.</p> <p>Challenge: Should write more detailed algorithms.</p>	<p>LO: To plan algorithms that will solve problems.</p> <p>Success Criteria: I can devise and create algorithms to solve problems. I can include loops in my algorithms (count controlled). I can visualise directions from a 2D environment.</p> <p>Main event: Play the game on the link: Google - coding for carrots. Children to use devices to explore the game whilst working on Resource: Google – coding for carrots blocks. Display the Presentation: Coding for carrots answers to show the solutions for levels one to six.</p> <p>Support: Should use a small toy or mini figure to help them navigate the maze and map; could use the Resource: Google – Coding for carrots block tile to help remember what the coding blocks do.</p> <p>Challenge: Should be encouraged to explain their code choices as they progress through the tasks; should use loops in their code to make their algorithms more efficient.</p>	<p>LO: To understand what abstraction is.</p> <p>Success Criteria: I can explain what abstraction is. I can give an example of when abstraction might be useful.</p> <p>Main event: Display slide 1 of the Presentation: Making maps and arrange the children into pairs or small groups. Hand out a printed photograph of a different key place around the school. Children to use abstraction to plan view of the location to create a collaborative school map.</p> <p>Support: Should discuss the key features to include before they start.</p> <p>Challenge: Should discuss whether the level of abstraction used is too much, too little or just right.</p>	<p>LO: To understand what debugging is.</p> <p>Success Criteria: I can understand the meaning of the word debugging. I can listen to my peer's verbal instructions. I can perform a task by following step-by-step instructions.</p> <p>Main event: Arrange the children in pairs and hand out six building bricks to each child. Explain that they will find and correct errors (debug) in instructional steps. In silence, demonstrate creating an object then ask them to copy it. Arrange the children in pairs and hand out a piece of cardboard or a whiteboard as a partition. Children in pairs to build identical robots by following instructions. Children to respond to feedback and refine their instructions.</p> <p>Support: Should keep their figure simple.</p> <p>Challenge: Be given more building blocks to create a more complex figure</p>	<p>LO:</p> <p>Success Criteria:</p> <p>Main event:</p> <p>Support:</p> <p>Challenge:</p>



Samuel Allsopp
Primary & Nursery School

MEDIUM TERM PLAN

--	--	--	--	--	--