Samuel Allsopp
Primary & Nursery School

MEDIUM TERM PLAN

TERM: Autumn 2		YEAR GROUP: Year 1		SUBJECT: Computing – Algorithm's unplug	
WEEK 1 **DATE: 04.11.24**	**WEEK 2** **DATE: 11.11.24**	**WEEK 3** **DATE: 18.11.24**	**WEEK 4** **DATE: 21.11.24**	**WEEK 5** **DATE: 2.12.24**	**WEEK 6** **DATE: 9.12.24**
LO: To understand what an algorithm is. **Success Criteria:** I can explain that an algorithm is a set of instructions. I can understand that these instructions sometimes need to be carried out in order. I can understand there can be more than one way to solve a problem. **Main Event:** Display slide 1 – arrange into pairs. Hand out activity and whiteboard pen. Children will cut out the doll and clothes. Children take it in turns to dress the doll and write dressing up algorithm on whiteboard. Follow each-others algorithm. Display slide 2 and ask pairs to give feedback. **Support:** Could use a pre-cut version of the Activity: Doll and clothes; could work with a supportive peer. **Challenge:** Should be given more blank cards from the Activity: Crossing the road cards to add more steps in their algorithm.	**LO:** To follow instructions precisely to carry out an action. **Success Criteria:** I can explain why an algorithm must be clear and precise. I can explain the problems a robot can have following our instructions. **Main Event:** Children explain to partners what an algorithm is. Rewatch video if necessary. Show slide 2, demonstrate what happens when an algorithm goes wrong and emphasise importance of precise instructions. Display slide 3 and children follow algorithm on whiteboards. Use slide 4-11 to read algorithm to children. Display slide 12 and children will show what they have drawn. How could algorithm be improved? Group drawings together according to similar features. Show slide 13 and arrange children in pairs, hand out activity and a dice and children take it in turns to roll dice and draw corresponding body part. What algorithm could be written to give a complete drawing? Children write and test algorithm. **Support:** Could have instructions repeated or written down; could work with a partner when drawing the figure. **Challenge:** Should sort the creatures into different groups based on similar features.	**LO:** To understand that computers and devices around us use inputs and outputs. **Success Criteria:** I can identify some input devices. I can identify some output devices. I can identify some devices that are both input and output devices. **Main Event:** Display slide 1 – children point out any input or output devices. Show slide 2 – Explain Alexa and Siri are examples of virtual assistants. Discuss issues with these, or issues with them following instructions. Explain if their instructions are unclear the virtual assistant will not understand. Use slide 3 to explain the children are going to be virtual assistants and must do what the class ask them to do. Display slide 4 and children will work in pairs using activity sheet. Children take it in turns for activity. **Support:** Could use the commands for a virtual assistant as demonstrated by the teacher. **Challenge:** Should identify other devices that can be inputs and outputs (including those they may see in the world around them).	**LO:** To understand and be able to explain what decomposition is. **Success Criteria:** I can explain what decomposition is. I can understand how decomposition allows you to solve a problem more easily. I can explain how we use decomposition in our everyday lives. **Main Event:** Display slide 1 and demonstrate process of designing and decomposing on a whiteboard. Draw around several 2D shapes to create a picture – children describe each step. Show slide 2 and get children to design similar picture using max of 8 shapes. Display slide 3 – Hand out activity sheet one each. Children break down picture into small steps. They will draw it in stages so another child can recreate. Include labels or arrows if needed. Once completed randomly swap sheets and ask children to follow instructions to recreate original design. Then check with original. **Support:** Should make a simpler shape design with fewer shapes or stages. **Challenge:** Should make a more complex shape design with more shapes and stages.	**LO:** To know how to debug an algorithm. **Success Criteria:** I can spot bugs in algorithms. I can fix the error (debug it) and explain the problem it caused. **Main Event:** Children will use decomposition and debugging skills to solve problems with directions to guide them around the map. Bugs in directions. Hand out activitiy and counters. Each child on an table of 6 will have a different map. **Support:** Should be encouraged to step and turn according to the instructions on the map; could use a toy or figure to guide around the map. **Challenge:** Could create algorithms (and the correct answers) to match their own maps.	**LO:** **Success Criteria:** **Main Event:** **Support:** **Challenge:**

Samuel Allsopp
Primary & Nursery School

MEDIUM TERM PLAN