Programming

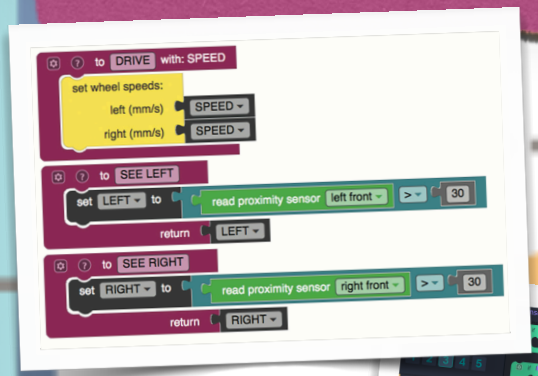
Year 5

How could we code a self-driving car?

St. Peter's CE Primary Academy

Key learning

- Use level 4 of Blockly to code Ozobot.
- Create own functions for Ozobots to use
- Use logic for operators including AND and OR
- Program Ozobot to be a self-driving car including using sensors and surface colours
- Create own variables including speed and proximity threshold
- Create a testing simulation for Ozobot to be a self-driving car with a range of hazards







Other coverage

Digital Citizenship

- Online reputation
- Online bullying

Mechanics

- Keyboard
- iPad

Systems and networks

- Online safety

Key vocabulary

AND (&&) operator	This will run a code only if all conditions are true
colour sensor	A sensor that detects which colour the Ozobot is on.
comparison operator	A type of operator that compares variables and runs code dependent on their relationship
conditionals	A command that only runs if certain conditions are met. If uses 'if'.
debugging	Finding and fixing problems in a computer program or algorithm
function	A function is a named set of instructions that performs a specific task.
logical operator	A logical operator that tells a computer how to combine or change conditions using AND, OR and NOT
OR (||) operator	This will run a code if at least one condition is true
NOT (!) operator	This operator changes a condition to use opposite
proximity sensor	A sensor that detects when an object is close to the Ozobot.

Programming - Our Learning Journey

Year 1

- Use simple commands to move and change direction
- Edit characters and backgrounds

Year 2

- Use repeat and forever loops
- Put a range of codes together to make a sequence
- Debug simple programmes

Year 3

- Use commands, for loops and conditionals
- Use different controls and conditionals including when and if
- Use sensors and code them to work in different ways

Year 4

- Create and edit functions
- Include functions in a game on Scratch
- Use logic for conditional commands, including 'else' command

Year 5

- Use comparison and logical operators in a range of programmes
- Create different variables for speed and proximity sensors in robots
- Code sensors for different purposes

Year 6

- Use variables to keep score in a created game
- Create a game using a range of functions, loops, operators and variables
- Begin to use Python to code Micro:Bits