

A-MAZE-ing robots: how do future self-drive cars work?

“The A-MAZE-ing robots project gets primary school children thinking about how to design cars of the future. The whole school is involved in a mission to build cars that can drive from one place to another (no remote controls allowed!). Each year has a special task to do. Reception will lay the route and year one will measure and write instructions to follow it. Year 2 will code these instructions in scratch and/or on the micro:bit. Year 3 have built micro:bit cars from kits and will later use the year 2 code to draw the route with pens attached to their cars. Year 4 have built micro:bit cars from motors, wheels and anything else they could get their hands on. Year 5 are breadboarding electronics to enable the year 4 cars to follow the lines drawn by year 3. Year 6 have a treat after their SATS as they will need to design a collision avoidance system! This project is about so much more than just coding, electronics or engineering of the cars. Year 4 did a bridge-building engineering challenge and made their bridges so strong we didn't have enough eggs to break them. Year 3 learned how to count in binary and made an electrical circuit by holding hands. In year 5 we built circuits with yeast extract, bread and LEDs. In essence this is really about logic, teamworking and problem solving: vital STEM attributes that will serve them well as they pass through the education system and beyond. Personally, I have witnessed first-hand how engaged and enthused all children so far have been about this project. With my Year 3 class, children were hardworking and persevered with skills they'd never come across before. Their sense of achievement after they had coded their Micro:bit cars to move was incredible to witness. Classes who have been involved so far have then shared their enthusiasm with the next class to come, creating a real buzz around the school about the project. I can't wait to see the progression from it throughout the year and the final outcomes from it.” **Lead project teacher**

“I absolutely loved learning about how to use and programme the Micro:bits and coding our vehicles to move. It was amazing! Me and my partner worked so well together as a team.”
Project student