

STUDENT SHOWCASE

Materials (Hard)

Materials (Soft)

Food and Bio-related

Digital Tech

Electronics

Sitting duck game

Remote-controlled lawn mower

Spinning LED display

Automatic Gate Opener

Portable Wind Turbine

Electronic Matchbox Bug

PICAXE GPS Autopilot

House Alarm

Remote Stoat Trap Monitor

Motorised Projector Mount

Electronic Scoring Hoop

Rugby Practice Target

Fridge Door Alarm

MP3 Speaker Unit

Heated Slippers

Drinking Fountain

Graphics

Scholarship Exemplars



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Electronic Matchbox Bug

Morgan Grace

*Dilworth School**Year 5 Technology**Teacher: Sarah Blenkiron*[Student work gallery](#)[Student work PDF \(876kb .PDF file\)](#)

When given a design brief to develop an electronic matchbox bug, Morgan first considered the possibilities during a brainstorming exercise. He sketched some of those ideas, colouring and labelling each design to show which body parts he could add to the matchbox 'body' and the materials to be used, explaining why he had chosen those materials. Morgan analysed and evaluated each design, and chose the grasshopper as the one he would further develop.

Morgan then researched insects, looking at different types and their specialised body parts, and decided to adapt the grasshopper design and create a dragonfly. He listed the key attributes for his project and how he would use the various components when he made his insect. The dragonfly would have a matchbox body, pipe-cleaner legs, a polystyrene head, and an LED powered by batteries for its glowing eyes.

Morgan learnt about the electronic components he would need for his dragonfly, and why these were suitable for such a project, and how to solder. Before constructing his dragonfly, Morgan was taught about mass production and participated in a class activity looking at the similarities and differences between one-off and mass production. He then created his insect, hiding the electronics within the cardboard box body.

Teacher comment

Morgan took his work above and beyond the boundaries of the brief. His outcome actually looked like an insect, rather than a box with electronics attached to it, and the different anatomical parts he'd incorporated showed that he'd applied his research. Morgan was very creative when it came to designing and explained his ideas clearly; he knew in his head exactly what he wanted and just got on with it. He understood why the materials he'd chosen were going to be important, and demonstrated good soldering skills.

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