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# Crumble Cookbooks

## Unique Selling Points

- Clear guide to programming
- Clear wiring diagrams
- Written by Crumble experts
- Endorsed by Redfern Electronics
- Designed to give teachers confidence

*Suitable for:  
KS2 students*

Supported by a set of downloadable individual challenge 'recipe' cards that allow teachers to set independent tasks.

Available as individual books or as part of a kit pack, which includes all the Crumble kit needed for the activities in the Cookbook.

**Christmas Lighting Display**

**Key Learning**

- Switching outputs on/off
- Using random numbers
- Addressing using variables

**Materials**

**For circuit**

- Crumble board x1
- Sparkle board x1
- Black wires x2
- Green wires x1
- Battery box x1
- Batteries x3
- USB cable x1

**To make**

- Coloured card
- Black card
- White paper
- Black wires x2
- Scissors
- Glue
- Tape

**How to make**

- Take an A5 portrait piece of black card.
- Fix your sparkle board onto the back of the card, in the centre on the bottom edge pointing upwards (see right), using the instructions in design and make techniques.
- On the front of the display, cut out and stick pieces of coloured paper in a design you have decided on, for example fireworks. Be adventurous!
- Now you can wire up your circuit and code your own light display.

**Wiring**

**Code**

**Further Exploration**

- Create more complex code variables and the green and blue to each to get a sparkling effect.
- Create more complex code variables and the green and blue to each to get a sparkling effect.
- The code on the right is for a sparkler. The blue code code whatever sequence the code below is used to get a sparkling effect.
- Create more complex code variables and the green and blue to each to get a sparkling effect.
- The code on the right is for a sparkler. Note there is no green included in the variable steps at all throughout.
- Make watch the value of the variables change as the program is run.

**Crumble Cookbook 1**  
Sparkles, switches, sensors  
15 Crumble projects suitable for Crumble novices age 8+

**Crumble Cookbook 2**  
Motors, servos and pumps  
13 Crumble projects suitable for Crumble novices age 8+

**CUB (Crumble Universal Buggy) Cookbook**  
9 CUB projects suitable for Crumble novices age 8+

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