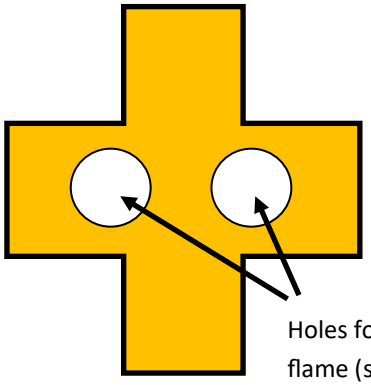


Holes for the flame (sparkle) modules

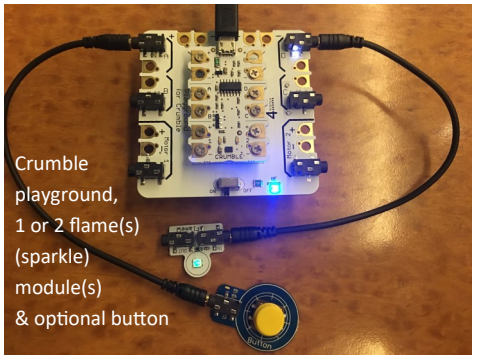
Pupils can measure the size of the holes

Cardboard Jewellery Design

Have a look at jewellery designs on the web. What makes them special? What makes them stand out? Can they design their own jewellery or adapt a design they find online. Their designs will be extra special as they will have a space for one or two flame sparkles to projects bright coloured light of their choosing through their design. They will be able to program which colours and how long that colour is displayed.

Pupils design an item of jewellery on card before colouring it in and decorating it. They will need to cut holes for the sparkles, a hole punch can be useful for this. Gold & silver pen or paint can improve the designs. It can help if the design is quite large as this hides the electronics.

Everyone will need cables, playground with crumble attached, USB cable, 3x AA batteries, one or two flame programmable lights, computer with crumble software installed available free from Redfern electronics.



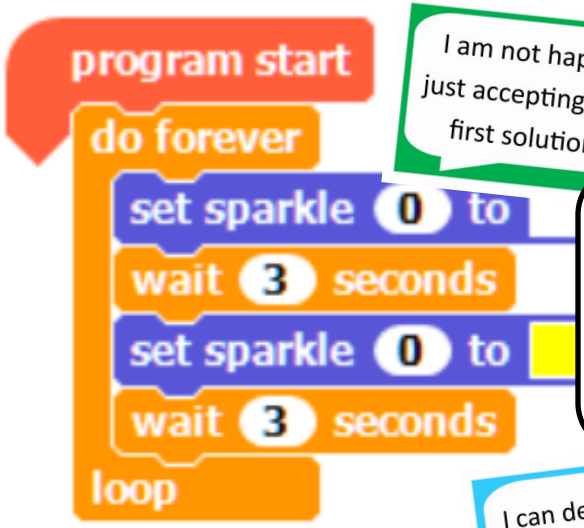
Crumble playground, 1 or 2 flame(s) (sparkle) module(s) & optional button

See the code-it.co.uk/crumbleplayground for maker cards to help pupils connect and program their devices

Computer Science Concepts

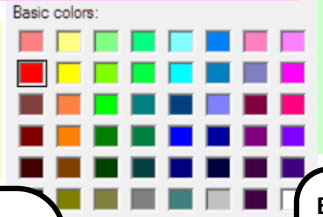
-All programming is an algorithm turned into code

-An Algorithm is a step by step sequences of instructions (or rules) to do something



I am not happy just accepting the first solution

Big Idea Design and program sparkling jewellery



Colours they can choose

Algorithm –Although students can experiment with their sequence of flashing lights once they have connected their sparking jewellery it is good to get them to think through their sequence of lights and the speed that they wish these to change before they program. They can design two or three algorithms and test these to see which one is best for their jewellery.

Equipment setup

-Let pupils setup the kit using the maker cards. Don't be too quick to help.

I learn from setbacks and don't let them put me off from solving difficult problems

I can persevere when solving difficult problems even if the solution is not obvious

I can design criteria to evaluate my creations

I repeatedly experiment through making, testing & debugging

Algorithm to code –Although meeting this challenge is mostly a question of taste it is important that pupils test the algorithms that they design and justify which sequence works best.

Algorithmic Efficiency

If pupils have not picked up on the possibilities of using a repeat loop for sequences that repeat

-Challenge pupils to write the same algorithm/code in less code. They can use circles for loops in the algorithm.

Cross Curricular Links

This module goes well with art modules as it incudes an element of jewellery design

code-it.co.uk