

Aims

- Through this activity students will learn to use sparkles. They should be able to make them turn on when the light goes below a certain level. There are variations (see bottom of page) including a way to make it more simple using a switch instead of a light sensor.

Advanced Code

To make all sparkles come on when the light senses a drop to a certain level

```

program start
set B HI
do forever
let t = analogue A
if t < 180 then
set all sparkles to [red]
end if
loop
  
```

Resources

- Crumble board
- Sparkles
- Battery pack
- Wires (at least 5)
- Paper/Card
- Switch (intermediate)
- Light sensor

Construction Tips

Use paper and card to construct an outside 'shell'. Make holes where you want the light to shine through. You could also stick sparkles to the outside and poke the wires through – then attach fabric to cover them.



Suggested Uses

- Create a display of themed nightlights. Perhaps a cultural theme to celebrate the festival of lights?

Challenge Questions

- Can you make the colours fade into one another when the light goes below a certain level?
- Can you stop them fading and turn off when the light goes back above a certain level?

Intermediate Code

To use a switch instead of a light sensor to make your light come on

```

program start
do forever
wait until A is HI
set all sparkles to [red]
wait 1 seconds
wait until A is HI
turn all sparkles off
wait 1 seconds
loop
  
```

Advanced Code

To make the lights go off once the lights go back above a certain level

```

program start
set B HI
do forever
let t = analogue A
if t < 180 then
set all sparkles to [red]
else
turn all sparkles off
end if
loop
  
```

Advanced Code

To incorporate a motor into the code so something moves when the light drops

```

program start
set B HI
do forever
let t = analogue A
if t < 180 then
set all sparkles to [red]
motor 1 FORWARD at 50 %
else
turn all sparkles off
motor 1 STOP
end if
loop
  
```