

Name _____ Class/Form _____ NL1

Thinking about wiring and programming a night light



Buttons are **inputs** because they **put in** information into the program. They can do two things, one when they are pressed and one when they are not pressed.

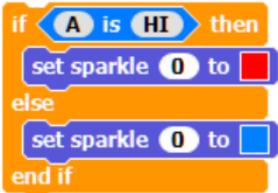
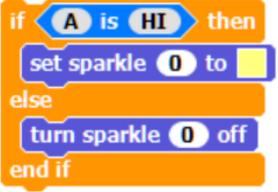
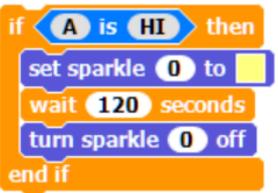


Push Buttons

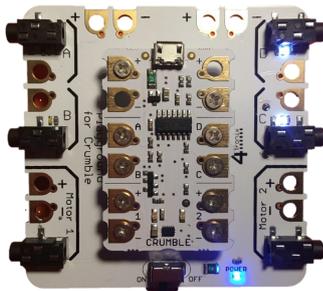
Programmable Lights

Programmable lights are **outputs** because they **put out** information from the program. These can output lots of different colours depending on the programming.

1, Connect the program idea to the correct algorithm and the correct programming block using lines

<p>Switching the light on or off with a button</p>	<p>When the button is pressed down the light goes on. When the button is de-pressed the light goes off.</p>	
<p>Switching the light from one colour to another colour using the button</p>	<p>When the button is pressed down the light goes on for 2 minutes before going out.</p>	
<p>Switching the light on for a period of time with a button before it goes off automatically</p>	<p>When the button is pressed down the light goes red. When the button is de-pressed the light goes blue.</p>	
<p>program idea</p>	<p>algorithm</p>	<p>programming block</p>

All three programs need to be wrapped inside a forever loop so the program checks if the button is pressed continually



Draw your light, button & wires

Name _____ Class/Form _____ NL2

Thinking about wiring and programming a night light



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Push Buttons

Programmable Lights Programmable lights are **outputs** because they **put out** information from the program. These can output lots of different colours depending on the programming.

1, Connect the program idea to the correct algorithm and the correct programming block using lines

Switching the light on or off with a button

When the button is pressed down the light goes on. When the button is de-pressed the light goes off

```

if A is HI then
  set sparkle 0 to [red]
else
  set sparkle 0 to [blue]
end if
  
```

(A is input the button is plugged into)

Switching the light from one colour to another colour using the button

When the button is pressed down the light goes on for 2 minutes before going out.

```

if A is HI then
  set sparkle 0 to [yellow]
else
  turn sparkle 0 off
end if
  
```

(HI is pressed down LO is de-pressed)

Switching the light on for a period of time with a button before it goes off automatically

When the button is pressed down the light goes red. When the button is de-pressed the light goes blue

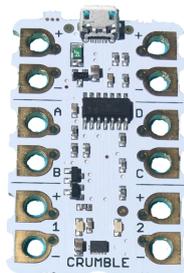
```

if A is HI then
  set sparkle 0 to [red]
  wait 120 seconds
  turn sparkle 0 off
end if
  
```

program idea

algorithm

programming block



All three programs need to be wrapped inside a forever loop so the program checks if the button is pressed continually



Draw your light, button & wires

Name _____ Class/Form _____ NL2

Thinking about wiring and programming a night light



Buttons are **inputs** because they **put in** information into the program. They can do two things, one when they are pressed and one when they are not pressed.



Push Buttons

Programmable Lights Programmable lights are **outputs** because they **put out** information from the program. These can output lots of different colours depending on the programming.

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Switching the light on for a period of time with a button before it goes off automatically

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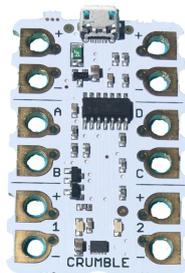
```

if A is HI then
  set sparkle 0 to [red]
  wait 120 seconds
  turn sparkle 0 off
end if
  
```

program idea

algorithm

programming block



All three programs need to be wrapped inside a forever loop so the program checks if the button is pressed continually



Draw your light, button & wires

Name _____ Class/Form _____ NL7

Thinking about programming a night light

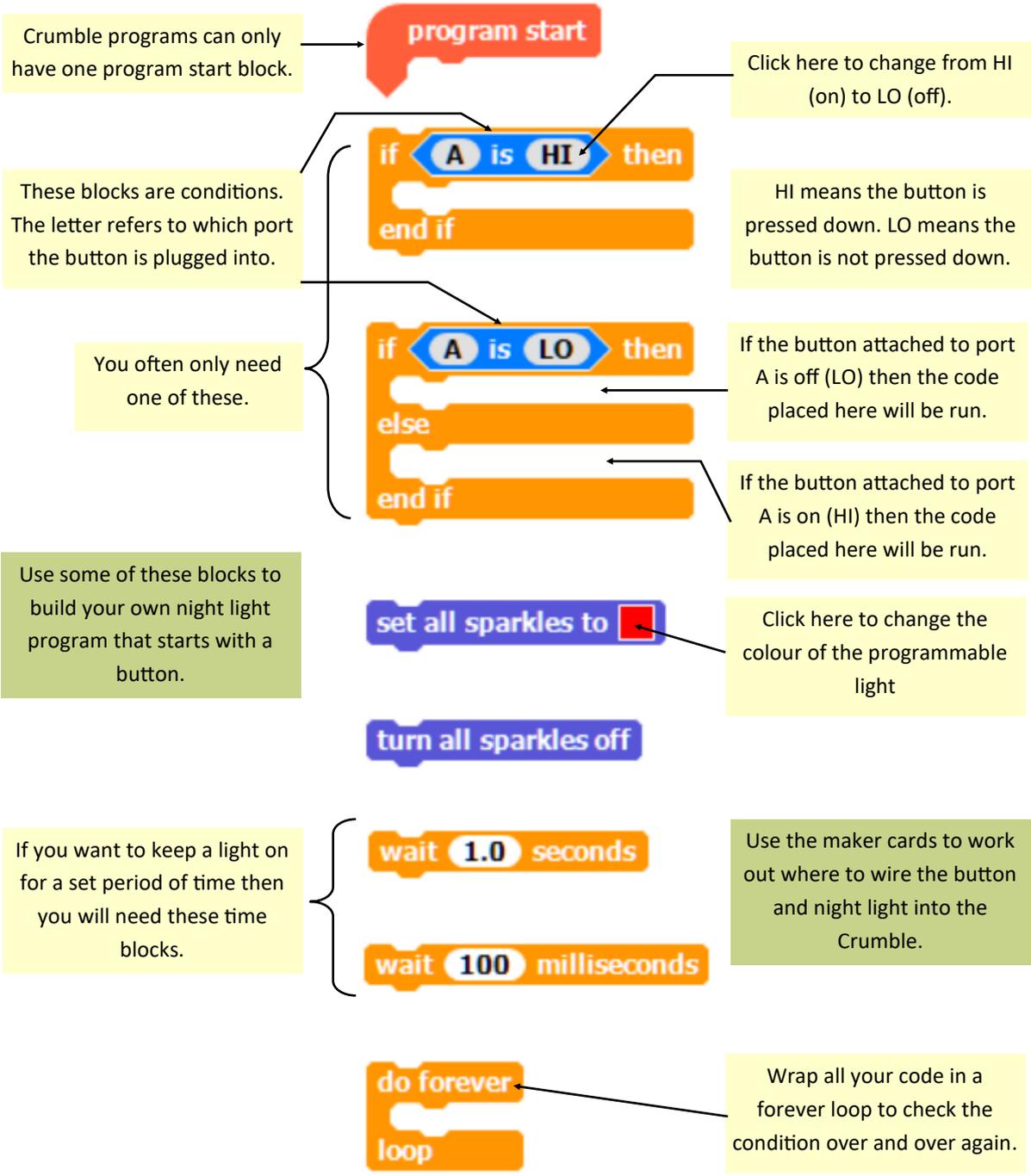


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Push Buttons

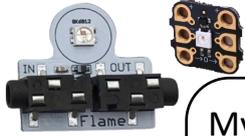
Programmable Lights Programmable lights are **outputs** because they **put out** information from the Crumble. These can output lots of different colours depending on the programming.



Name _____ Class _____

NL3

Thinking about designing my own project that uses lights and buttons



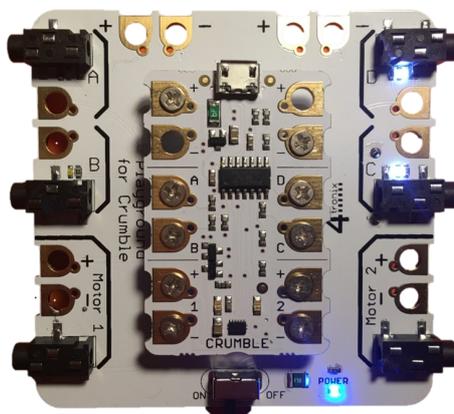
These are programmable lights

Fill in your idea and add your inputs and outputs to the chart

My program will
by

What will the user see and do?

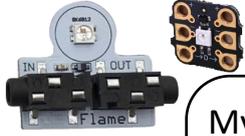
Input/ Output	Name of device attached	What the device does (include as much detail as possible)
A output	LED red light	The red LED lights up when the button is not being pushed (LO).
A		
B		
C		
D		
Motor 1		
Motor 2		



Draw your devices and the wires that connect them

Name _____ Class _____ NL4

Thinking about designing my own project that uses lights and buttons



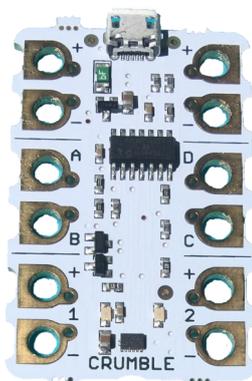
These are programmable lights

Fill in your idea and add your inputs and outputs to the chart

My program will
by

What will the user see and do?

Input/ Output	Name of device attached	What the device does (include as much detail as possible)
A output	LED red light	The red LED lights up when the button is not being pushed (LO).
A		
B		
C		
D		
Motor 1		
Motor 2		

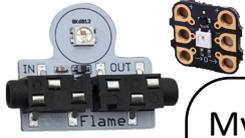


Draw your devices and the wires that connect them



Name _____ Class _____ NL4

Thinking about designing my own project that uses lights and buttons



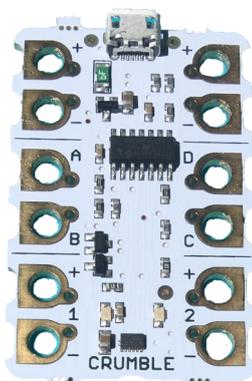
These are programmable lights

Fill in your idea and add your inputs and outputs to the chart

My program will
by

What will the user see and do?

Input/ Output	Name of device attached	What the device does (include as much detail as possible)
A output	LED red light	The red LED lights up when the button is not being pushed (LO).
A		
B		
C		
D		
Motor 1		
Motor 2		



Draw your devices and the wires that connect them

Night Light Assessment Sheet

Project without Button NL5

Name _____ Class _____



I did this well



I did this ok or I did this a little



I tried this but it didn't work or I didn't do this at all

I wired up my night light.	
I programmed my light to turn on.	
I programmed my light to turn off after a period of time.	
I programmed my light to change colours.	
I listened to my partners ideas.	
I contributed good idea to my partner.	
I persevered when the wiring or programming didn't work.	
I thought of my own project that uses a light and shared it with my partner & teacher.	
I created my own project on my own or with my partner.	

Sticker	I got this sticker for
Sticker	I got this sticker for
Sticker	I got this sticker for

Night Light Assessment Sheet

Name _____ Class _____

Project with Button NL6



I did this well



I did this ok or I did this a little



I tried this but it didn't work or I didn't do this at all



I wired up my night light.	
I programmed my light to turn on using a button.	
I programmed my light to turn off after a period of time.	
I programmed my light to change colours.	
I listened to my partners ideas.	
I contributed good idea to my partner.	
I persevered when the wiring or programming didn't work.	
I adapted the program on the sheet to make a new program.	
I broke the problem up into inputs and outputs.	

Sticker	I got this sticker for
Sticker	I got this sticker for
Sticker	I got this sticker for