

8 Is it too bright?

1. Build the Flowcode program which will light the LED only when bright light shines on the LED.
2. Connect the light sensor to PORT A0, which will be set up as an analogue input.
3. Connect the LED Unit to PORT B, and create one LED, on B0.
4. Configure the Loop icon as in previous programs, and set up the other components as follows:

Display name	Sample light level
Component	ADC0
Macro	SampleADC

Display name	Output a reading
Component	ADC0
Macro	ReadAsByte

Display name	Is light level tbright?
If:	light>200

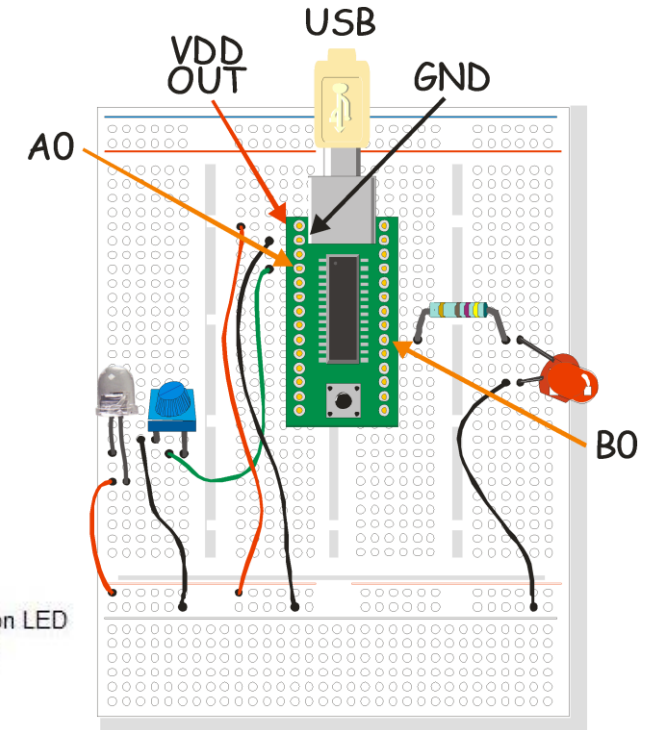
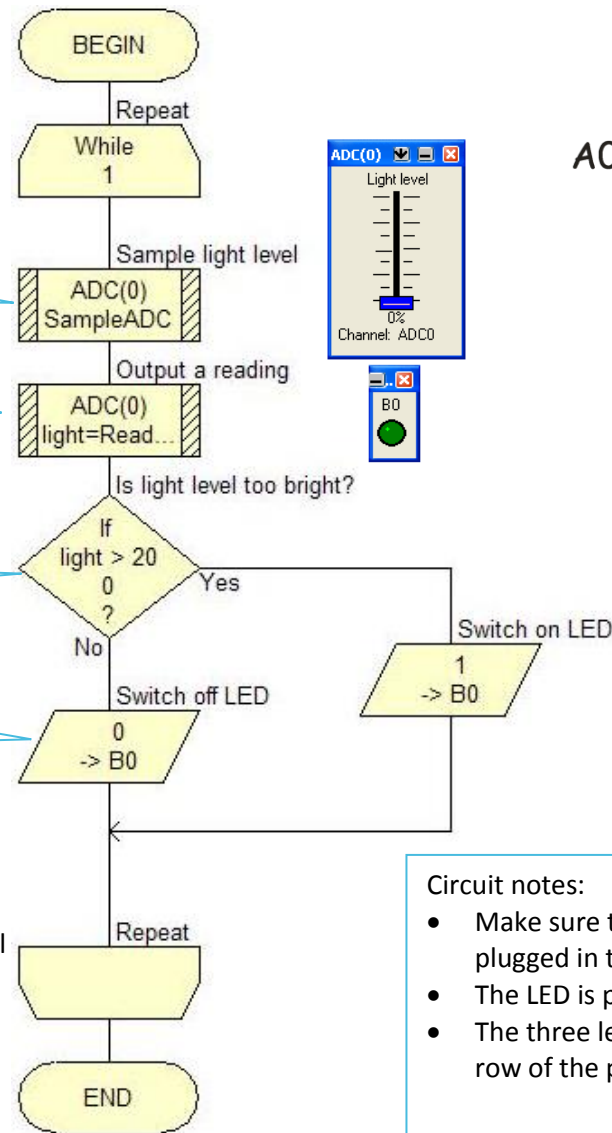
Display name	Switch off LED
Value	0
Port	PORT B
Output to	Single Bit 0

(Set up the other Output icon in a similar way, to output a value of 1 to Port B0, to turn on the LED.)

5. Save the Flowcode program, and then compile it to the chip.
6. Build the circuit, shown opposite, on the prototype board.
7. Test the circuit by covering and uncovering the light sensor. You will need to adjust the potentiometer by turning the knob until the LED goes on when the light sensor is uncovered and off when it is covered.

Further work:

Modify the program so that the LED turns off in bright light.



Circuit notes:

- Make sure that the LED and light sensor are plugged in the right way round!
- The LED is protected by a 470Ω resistor.
- The three legs of the pot each go into a different row of the prototype board.