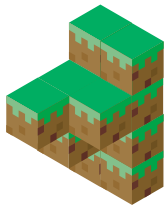#Connect the LDR between B19 & B23
#Connect a 10KOhm resistor (brown, black, orange)from C19 to (+'ve) rail
#Connect a jumper wire (white) from D19 to G7: this is our analog read wire connected to Analog 1 on the arduino chip pins. It will read the value from the Light dependent resistor
Connect 2 more LEDs with the -'ve cathode in the blue rail on J13 & J14.
#Connect another LED with the -'ve rail and I16 and bend to make it shine on the the LDR: we will adjust it to fit the test tube holder

LDR (Light Dependent Resistor) x1

10KOhm Resistor x1

Jumper wires x3

LEDs x3

Take the Black foam sample holder base and place beneath the LDR & LED pair
Bend the LDR to fit over this base section of the black foam sample holder, there are cuts for the LDR legs
Bend the LED connected to I16 to fit over the bottom section of the black foam sample holder
Fit the foam sample holder on top of the base, LED & LDR and hold with elastic bands
You should now be able to insert a test tube snuggly into the gap between the LDR and LED

2 x AAA Battery Holder (4.5V) x1
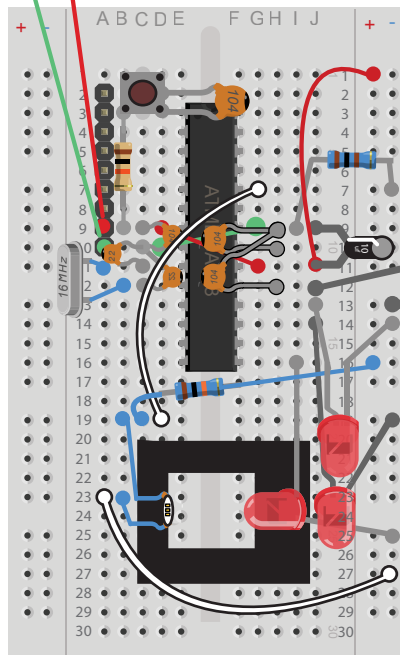
#We designed the kits to flash LED's depending on their sensor readings: 1 flash is clear, 3 flashes 'dirty' or occluded

Thats it! You can now test your sensor with different samples; you may need to tweak the response values.

DIY Turbitity Water Sample Holder Base

DIY Turbitity Water Sample Holder Top

Now use the USB connector to upload the WalneyTurbiditySensor to the arduino. Use Arduino UNO as the board type and the serial port will be something like tty.SLAB_USBtoUART

#Then to go wild and launch your sensor you need to disconnect your USB connector and hook up your battery pack: insert the red wire (+'ve) into A9 and the green wire (-'ve) into A10. Once connected we can stick the pack to the underside of the breadboard

We use small standard square test-tubes to place our samples in DIY 'turbidity' sensors: essentially measuring how much LED light passes through the sample: the dirtier the water is the less light passes through. This does not really tell us about water quality but we can infer how clear water is and compare it to other samples, to start off we will use drinking water and compare with the dock water.

#There's a more advanced turbidity sensor at http://hackteria.org/wiki/index.php/DIY_turbidity_meters