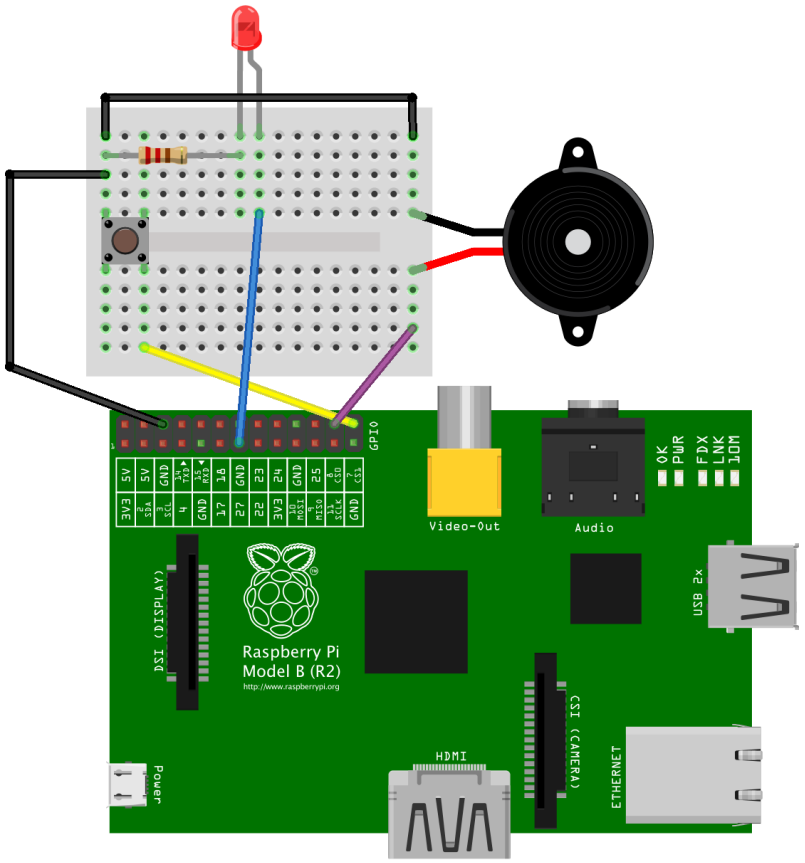
BIGGER BOOM!



Let's make a more impressive explosion crater!

We'll combine lots of the Python code we've already used before (led, buzzer, reaction game).

```
import RPi.GPIO as GPIO
import mcpi.minecraft as minecraft
import mcpi.block as block
import time
# setup the GPIO pins
BUTTON=26
LED=13
BUZZER=24
GPIO.setmode(GPIO.BOARD)
GPIO.setup(LED, GPIO.OUT)
GPIO.setup(BUZZER, GPIO.OUT)
GPIO.setup(BUTTON,GPIO.IN, pull_up_down=GPIO.PUD_UP)

mc = minecraft.Minecraft.create()

# afunction to make the led flash at a certain speed
def blink(freq):
        GPIO.output(LED,GPIO.LOW)
        for i in range(int(0.5/freq)):
                GPIO.output(LED,GPIO.HIGH)
                time.sleep(freq)
                GPIO.output(LED,GPIO.LOW)
                time.sleep(freq)

#a function to run a countdown, calling the blink function with increasing speed
# then activate the buzzer for a short time
def countdown(time):
        for i in range(time,0,-1):
                blink(0.02*i)
                print i
        for t in range(2000):
                buzz(0.00005)

#create the crater


def bomb(x,y,z):
        mc.setBlock(x+1,y,z,block.TNT.id)
        time.sleep(1)
        mc.postToChat('BOOM!')
# uncomment the line below for a cubed crater
#       mc.setBlocks(x-10,y-5,z-10,x+10,y+10,z+10, block.AIR.id)
        blastRadius = 5
# make a spherical crater of radius = blastradius
        for x in range(blastRadius*-1,blastRadius):
                for y in range(blastRadius*-1, blastRadius):
                        for z in range(blastRadius*-1,blastRadius):
                                if x**2 + y**2 + z**2 < blastRadius**2:
                                        mc.setBlock(pos.x + x, pos.y + y, pos.z + z, block.AIR)

# make the buzzer buzz
def buzz(freq):
    GPIO.output(BUZZER,GPIO.HIGH)
    time.sleep(freq)
    GPIO.output(BUZZER,GPIO.LOW)
    time.sleep(freq)

# the main block of code, waits for the button to be pressed then starts the countdown
try:
        while True:
                time.sleep(0.1)
                if GPIO.input(BUTTON) == False:
                        pos = mc.player.getTilePos()
                        countdown(10)
                        bomb(pos.x, pos.y, pos.z)
finally:
        GPIO.cleanup()
```