



## *Python Pi Challenge*

# ***Blow Stuff Up!***

### The Pi Challenges

No code provided for you this time! Can you figure out how to write it yourself?

A problem with the Minecraft Pi edition is that you can't explode TNT by the usual means. But that's no obstacle to a programmer. Can you write a program to explode TNT?

### Hints

In Project 1, our teleporter, we had a “dematerialize” special effect when Steve used the teleporter. An explosion is basically a bigger version of some sort of special effect like that.

Try putting some fire around whatever you are going to blow up. Leave the fire there for a second or two, then replace all those blocks with air. It will look like the explosion has destroyed whatever was there.

How do you decide what blocks are 'around' your TNT? Use a bit of maths – say you want an explosion about 10 blocks wide around your TNT. Use a loop for the x, y and z co-ordinates, going from 0 to 10:

```
for x in range(10):
    for y in range(10):
        for z in range(10):
            ...
```

and use the fact that the distance “r” from a point satisfies  $r^2 = x^2 + y^2 + z^2$ .

How about combining your explosion with the Big Red Button from Project 5, so that the TNT explodes when you press the button?