

# WJEC Wales Physics GCSE

## RP10: Radioactive Decay Practical Notes



## Practical 10: Determination of the half-life do a model radioactive source

### Equipment

- 50x cubes with one face shaded
- Plastic tub
- Tray

### Diagram



*[Image: WJEC](#)*

### Method

1. Put the cubes into the tub and shake it gently.
2. Throw the cubes from the tub into the tray and record the number that land shaded face up.
3. Remove these cubes from the tray.
  - These are considered to be decayed atoms.
4. Put the remaining cubes back in the tub, shake, and throw onto the tray again, recording the number that land shaded face up and then removing them from the group.
5. Repeat this process 10 times in total.
6. Plot a graph of the number of cubes/atoms remaining against the number of throws.
  - Use this to determine the half-life of the cubes.
  - Remember that half-life is the time taken for the number of radioactive nuclei to halve.

### Tips

- Radioactive decay is a random process. The cubes that land shaded side up represent decayed atoms, whereas the remaining cubes represent those atoms that have not yet decayed.

