**This activity accompanies the above article ‘The hunt is on’.**

Below is a list of the most stable isotopes of the first 20 elements in the periodic table. In this activity, stability is defined as an element that exists for 10 days or more. These isotopes may exist in tiny amounts.

1H 2H 3H

3He 4He

6Li 7Li

7Be 9Be 10Be

10B 11B

12C 13C 14C

14N 15N

16O  17O 18O

19F

20Ne 21Ne 22Ne

22Na 23Na

24Mg 25Mg 26Mg

26Al 27Al

28Si 29Si 30Si 32Si

31P 32P 33P

32S 33S 34S 35S 36S

35Cl 36Cl 37Cl

36Ar 37Ar 38Ar 39Ar 40Ar 42Ar

39K 40K 41K

40Ca 41Ca 42Ca 43Ca

44Ca 45Ca 46Ca 48Ca

**Task:** Organise the isotopes into a graph. On the x axis (horizontal) plot the atomic number of the element – you’ll need to look this up on the periodic table. On the y axis (vertical) plot the isotope mass (scale from 0 to 50). You might want to use different colours for each of the isotopes to make your graph easy to read.

**Extension task:** Organise the isotopes into a graph to show the relationship between the number of protons and the number of neutrons in the isotope.

**Criteria you need to follow for a graph**

* Axes and plotted points in pencil
* Axes labels and scale in pen
* Sensible scale
* Plotted points cover at least half the paper