THE PERIODIC TABLE’S FOUR NEW ELEMENTS

On the last day of 2015, the International Union of Pure and Applied Chemistry (IUPAC) confirmed the discoveries of four new synthetic elements, which completes the periodic table’s seventh row. What do we currently know about these elements? Here’s a brief summary.

**ELEMENT 113 – NIHONIUM**
- Discovered at RIKEN, Japan
- Named after ‘Nihon’ (One of two Japanese names for Japan).
- Most stable isotope: Nh
  - Half life: 19.6 seconds

**ELEMENT 115 – MOSCOVIUM**
- Joint discovery by Russia & US
- After the Moscow region, where the Joint Institute for Nuclear Research is based.
- Most stable isotope: Mc
  - Half life: 220 milliseconds

**ELEMENT 117 – TENNESSINE**
- Joint discovery by Russia & US
- After the state of Tennessee, where Oak Ridge National Lab is based.
- Most stable isotope: Ts
  - Half life: 51 milliseconds

**ELEMENT 118 – OGANESSON**
- Joint discovery by Russia & US
- After Yuri Oganessian, who discovered a number of superheavy elements.
- Most stable isotope: Og
  - Half life: 0.89 milliseconds

**WHAT'S THE POINT OF MAKING THESE ELEMENTS?**

Only a limited number of atoms of these unstable elements have been created, and they quickly decay to other elements. However, it’s theorised that an ‘island of stability’ may exist for heavier elements. These elements may exist for hours or days. They may also start to deviate from the usual periodicity (pattern of properties) of the periodic table, teaching us new things about chemistry!