Activity sheet

# Activity 1.1 Identifying different types of elements

The known elements can be classified as: halogens, noble gases, other non-metals, metalloids, alkali metals, alkaline earth metals, transition metals, post-transition metals, lanthanoids and actinoids.

## Instructions

1. Research the meaning of any terms from the list above with which you are unfamiliar.
2. Find out which elements belong to each class.
3. Colour code the periodic table on the following page to show the location of each class of elements.
4. Use a key to indicate which class each colour represents.

| Key: |
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5. Label groups 1 to 18 across the top of the periodic table.
6. Label periods 1 to 7 down the left side of the periodic table.

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| hydrogen 1 **H** 1.008 | | | | | | | | | | | | | | | | | helium 2 **He** 4.003 |
| lithium 3 **Li** 6.941 | beryllium 4 **Be** 9.012 | | | | | | | | | | | boron 5 **B** 10.811 | carbon 6 **C** 12.011 | nitrogen 7 **N** 14.007 | oxygen 8 **O** 15.999 | flourine 9 **F** 18.998 | neon 10 **Ne** 20.180 |
| Sodium 11 **Na** 22.990 | Magnesium 12 **Mg** 24.305 | | | | | | | | | | | aluminium 13 **Al** 26.982 | silicon 14 **Si** 28.086 | phosphorus 15 **P** 30.974 | sulfur 16 **S** 32.066 | chlorine 17 **Cl** 35.453 | argon 18 **Ar** 39.948 |
| potassium 19 **K** 39.098 | calcium 20 **Ca** 40.078 | scandium 21 **Sc** 44.956 | titanium 22 **Ti** 47.88 | vanadium 23 **V** 50.942 | chromium 24 **Cr** 51.996 | manganese 25 **Mn** 54.938 | iron 26 **Fe** 55.933 | cobalt 27 **Co** 58.933 | nickel 28 **Ni** 58.693 | copper 29 **Cu** 63.546 | zinc 30 **Zn** 65.39 | gallium 31 **Ga** 69.732 | germanium 32 **Ge** 72.61 | arsenic 33 **As** 74.922 | selenium 34 **Se** 78.09 | bromine 35 **Br** 79.904 | krypton 36 **Kr** 84.80 |
| rubidium 37 **Rb** 84.468 | strontium 38 **Sr** 87.62 | yttrium 39 **Y** 88.906 | zirconium 40 **Zr** 91.224 | niobium 41 **Nb** 92.906 | molybdenum 42 **Mo** 95.94 | technetic 43 **Tc** 98.907 | ruthenium 44 **Ru** 101.07 | rhodium 45 **Rh** 102.906 | palladium 46 **Pd** 106.42 | silver 47 **Ag** 107.868 | cadmium 48 **Cd** 112.411 | indium 49 **In** 114.818 | tin 50 **Sn** 118.71 | antimony 51 **Sb** 121.760 | tellurium 52 **Te** 127.6 | iodine 53 **I** 126.904 | xenon 54 **Xe** 131.29 |
| cesium 55 **Cs** 132.905 | barium 56 **Ba** 137.327 | 57-71 | hafnium 72 **Hf** 178.49 | tantalum 73 **Ta** 180.948 | tungsten 74 **W** 183.85 | rhenium 75 **Re** 186.207 | osmium 76 **Os** 190.23 | iridium 77 **Ir** 192.22 | platinum 78 **Pt** 195.08 | gold 79 **Au** 196.967 | mercury 80 **Hg** 200.59 | thallium 81 **Tl** 204.383 | lead 82 **Pb** 207.2 | bismuth 83 **Bi** 208.980 | polonium 84 **Po** 208.982 | astatine 85 **At** 209.987 | radon 86 **Rn** 222.018 |
| francium 87 **Fr** 223.020 | radium 88 **Ra** 226.025 | 88-103 | rutherfordium 104 **Rf** [261] | debnium 105 **Db** [262] | seaborgium 106 **Sg** [266] | bohrium 107 **Bh** [264] | hassium 108 **Hs** [269] | meitnerium 109 **Mt** [268] | darmstadtium 110 **Ds** [269] | roentgenium 111 **Rg** [272] | copernicium 112 **Cn** [277] | | flerovium 114 **Fl** [289] | | livermorium 116 **Lv** [298] | | |

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| lanthanum 57 **La** 138.906 | cerium 58 **Ce** 140.115 | praseodymium 59 **Pr** 140.908 | neodynium 60 **Nd** 144.24 | promethium 61 **Pm** 144.913 | samarium 62 **Sm** 150.36 | europium 63 **Eu** 151.966 | gadolinium 64 **Gd** 157.25 | terbium 65 **Tb** 158.925 | dysprosium 66 **Dy** 162.50 | holmium 67 **Ho** 164.930 | erbium 68 **Er** 167.26 | thulium 69 **Tm** 168.934 | ytterbium 70 **Yb** 173.04 | lutetium 71 **Lu** 174.967 |
| actinium 89 **Ac** 277.028 | thorium 90 **Th** 232.038 | protactinium 91 **Pa** 231.036 | uranium 92 **U** 238.029 | neptunium 93 **Np** 237.048 | plutonium 94 **Pu** 244.064 | americium 95 **Am** 243.061 | curium 96 **Cm** 247.070 | berkelium 97 **Bk** 247.070 | californium 98 **Cf** 251.080 | einsteinium 99 **Es** [254] | fermium 100 **Fm** 257.095 | mendelevium 101 **Md** 258.1 | nobelium 102 **No** 259.101 | lawrencium 103 **Lr** [262] |