Periodic Table — Element Uses & Applications

Short real-world applications for all 118 elements · historical uses are identified

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 **H** Rocket fuel; ammonia																	2 **He** Balloons; MRI cooling
2	3 **Li** Rechargeable batteries	4 **Be** X-ray windows; aerospace											5 **B** Borosilicate glass; detergents	6 **C** Steel; plastics; all life	7 **N** Fertilisers; food packaging	8 **O** Breathing; steelmaking	9 **F** Toothpaste; non-stick coatings	10 **Ne** Neon signs; lasers
3	11 **Na** Table salt; streetlights	12 **Mg** Light alloys; flares											13 **Al** Cans; aircraft; foil	14 **Si** Computer chips; glass	15 **P** Fertilisers; matches	16 **S** Sulfuric acid; rubber	17 **Cl** Water treatment; PVC	18 **Ar** Welding shields; light bulbs
4	19 **K** Fertilisers; soaps	20 **Ca** Cement; bones; plaster	21 **Sc** Aluminium alloys; lamps	22 **Ti** Implants; aircraft frames	23 **V** Steel hardening; catalysts	24 **Cr** Chrome plating; stainless steel	25 **Mn** Steel; dry-cell batteries	26 **Fe** Steel; haemoglobin	27 **Co** Magnets; blue pigment	28 **Ni** Stainless steel; coins	29 **Cu** Wiring; plumbing	30 **Zn** Galvanising; sunscreen	31 **Ga** LEDs; semiconductors	32 **Ge** Fibre optics; infrared lenses	33 **As** Semiconductors; historic preservatives	34 **Se** Photocopiers; glassmaking	35 **Br** Flame retardants; dyes	36 **Kr** High-performance lighting
5	37 **Rb** Atomic clocks; research	38 **Sr** Red fireworks; magnets	39 **Y** LED phosphors; superconductors	40 **Zr** Nuclear cladding; ceramics	41 **Nb** Superconducting magnets	42 **Mo** High-strength steel alloys	43 **Tc** Medical imaging tracer	44 **Ru** Electrical contacts; catalysts	45 **Rh** Catalytic converters	46 **Pd** Catalytic converters; electronics	47 **Ag** Jewellery; electronics; mirrors	48 **Cd** Batteries; pigments	49 **In** Touchscreen coatings	50 **Sn** Solder; tin plating	51 **Sb** Flame retardants; alloys	52 **Te** Solar panels; alloys	53 **I** Antiseptics; thyroid health	54 **Xe** Headlights; ion thrusters
6	55 **Cs** Atomic clocks; drilling fluids	56 **Ba** Medical imaging; drilling	57 **La** Camera lenses; batteries	72 **Hf** Nuclear control rods	73 **Ta** Capacitors; surgical implants	74 **W** Filaments; cutting tools	75 **Re** Jet engine superalloys	76 **Os** Pen tips; electrical contacts	77 **Ir** Spark plugs; crucibles	78 **Pt** Catalysts; jewellery	79 **Au** Jewellery; electronics	80 **Hg** Scientific instruments; lamps	81 **Tl** Electronics; infrared detectors	82 **Pb** Batteries; radiation shielding	83 **Bi** Cosmetics; stomach remedies	84 **Po** Historic antistatic devices	85 **At** Research only	86 **Rn** Geological tracing; historic therapy
7	87 **Fr** Research only	88 **Ra** Historic luminous paint	89 **Ac** Neutron sources	104 **Rf** Research only	105 **Db** Research only	106 **Sg** Research only	107 **Bh** Research only	108 **Hs** Research only	109 **Mt** Research only	110 **Ds** Research only	111 **Rg** Research only	112 **Cn** Research only	113 **Nh** Research only	114 **Fl** Research only	115 **Mc** Research only	116 **Lv** Research only	117 **Ts** Research only	118 **Og** Research only

			57 **La** Camera lenses; batteries	58 **Ce** Catalysts; polishing	59 **Pr** Aircraft engines; magnets	60 **Nd** Powerful magnets; lasers	61 **Pm** Specialist nuclear batteries	62 **Sm** Magnets; cancer treatment	63 **Eu** Red phosphors; security	64 **Gd** MRI contrast agents	65 **Tb** Green phosphors; sonar	66 **Dy** Magnets; reactor control	67 **Ho** Lasers; magnetic research	68 **Er** Fibre-optic amplifiers	69 **Tm** Portable X-ray sources	70 **Yb** Atomic clocks; lasers	71 **Lu** PET scan detectors	
			89 **Ac** Neutron sources	90 **Th** Nuclear research; historic mantles	91 **Pa** Scientific research	92 **U** Nuclear fuel; rock dating	93 **Np** Neutron detectors	94 **Pu** Nuclear fuel; spacecraft power	95 **Am** Smoke detectors	96 **Cm** Spacecraft power sources	97 **Bk** Research only	98 **Cf** Neutron sources; well logging	99 **Es** Research only	100 **Fm** Research only	101 **Md** Research only	102 **No** Research only	103 **Lr** Research only	

Applications are concise examples; some radioactive and synthetic elements are used only in research.