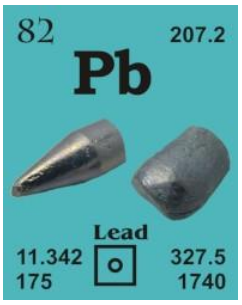
Lead $_{82}Pb^{207.19}$

Known to ancient civilizations.

French: plomb
German: blei
Italian: piombo
Spanish: plomo



Atomic number	82
Density in g/cm³	11.342
Atomic radius in pm	175
Atomic weight	207.2
Melting point in °C	327.5
Boiling point in °C	1740

Description: Lead is a soft, weak, ductile, dull grey metal that tarnishes in moist air but is stable to oxygen and water. It dissolves in HNO3. Lead is used in batteries, cables, glass, solder, radiation shielding, etc.
A little is still used in paints and petrol but generally this use is being phased out.

LEAD SINGLE CRYSTAL PROPERTIES

State:	single crystal
Crystal structure:	fcc
Production method:	Bridgman
Standard size:	diameter 10-12mm thickness 1-2mm
Orientation:	(100), (110) and (111)
Orientation accuracy:	<2°, <1°, <0.4° or <0.1°
Polishing:	electrochemical
Roughness of surface:	<0.03µm
Purity:	99.99%
Typical analysis (ppm):	C 3 H < 1 O 9 N < 5 Cu 1.60 Fe 1.80 Ni < 1 Pb 0.30 Si 0.30 Ga, Hf and Ta are below the detection limit
Density:	11.4 g/cm3
Melting point:	327.50 °C / 600.65 °K
Boiling point:	1739.85 °C / 2013 °K
Molar volume:	18.26 cm3
Thermal conductivity:	35.3 [300 K] Wm-1K-1
Coefficient of linear thermal expansion:	29.1 x 10-6 K-1
Electrical resistivity:	20.648x 10-8 [293 K] Wm

Mass magnetic susceptibility:	-1.39 x 10-9(s) kg-1m3
Young's modulus:	16.1 GPa
Rigidity modulus:	5.59 GPa
Bulk modulus:	45.8 GPa
Poisson's ratio:	0.44
Radii:	Pb4+ 84; Pb2+ 132; atomic 175; covalent 154
Electronegativity:	2.33 (Pauling); 1.55 (Allred); 3.90 eV (absolute)
Effective nuclear charge:	5.65 (Slater); 12.39 (Clementi); 15.33 (Froese-Fischer)
Number of Isotopes (incl. nuclear isomers):	41
Issotope mass range:	184 -> 214
Crystal structure, (cell dimentions / pm), space group	fcc
X-ray diffraction: mass absorption coefficients:	CuKα 232 (μ/r) / cm2g-1 MoKα 120 (μ/r) / cm2g-1
Neutron scattering length:	0.9405 b/10-12 cm
Thermal neutron capture cross-section:	0.171 sa / barns