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Common acids

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Chemical Formula Writing Worksheet

Students are only needed when the polyatomic group is greater than 1. (E.g. Strontium phosphate, $\text{Sr}_3(\text{PO}_4)_2$)

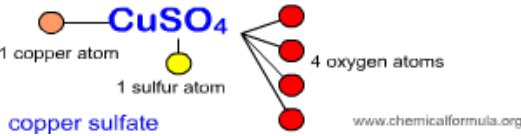
Set 2: The combining power (valency) is 1 and also 2. The formula for the anion (ion) is given.

Cation	anion	oxide	hydroxide	nitrate	acetate	phosphate	carbonate
Sodium	Na^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Potassium	K^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Ammonium	NH_4^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Barium	Ba^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Calcium	Ca^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Magnesium	Mg^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Strontium	Sr^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Bromine	Br^-	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Iodine	I^-	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Fluorine	F^-	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Chlorine	Cl^-	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Sulfur	S^{2-}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Phosphorus	P^{3-}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Aluminum	Al^{3+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Iron	Fe^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Copper	Cu^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Zinc	Zn^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Nickel	Ni^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Cadmium	Cd^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lead	Pb^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Barium	Ba^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Strontium	Sr^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Calcium	Ca^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Magnesium	Mg^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Ammonium	NH_4^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Sodium	Na^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Potassium	K^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Hydrogen	H^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Helium	He	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lithium	Li^+	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Beryllium	Be^{2+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Boron	B^{3+}	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Carbon	C	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Nitrogen	N	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Oxygen	O	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Fluorine	F	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Neon	Ne	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Sodium	Na	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Magnesium	Mg	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Aluminum	Al	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Silicon	Si	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Phosphorus	P	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Sulfur	S	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Chlorine	Cl	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Argon	Ar	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Potassium	K	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Calcium	Ca	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Scandium	Sc	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Titanium	Ti	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Vanadium	V	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Chromium	Cr	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Manganese	Mn	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Iron	Fe	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Cobalt	Co	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Nickel	Ni	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Copper	Cu	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Zinc	Zn	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Gallium	Ga	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Germanium	Ge	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Arsenic	As	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Selenium	Se	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Bromine	Br	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Krypton	Kr	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Barium	Ba	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lanthanum	La	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Cerium	Ce	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Praseodymium	Pr	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Neodymium	Nd	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Europium	Eu	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Gadolinium	Gd	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Terbium	Tb	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Dysprosium	Dy	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Ytterbium	Yb	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lutetium	Lu	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Hafnium	Hf	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Tantalum	Ta	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Tungsten	W	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Rhenium	Re	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Osmium	Os	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Iridium	Ir	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Ruthenium	Ru	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Rhodium	Rh	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Palladium	Pd	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Silver	Ag	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Cadmium	Cd	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Indium	In	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Thallium	Tl	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lead	Pb	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Bismuth	Bi	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Polonium	Po	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Astatine	At	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Francium	Fr	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Radium	Ra	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Actinium	Ac	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Thorium	Th	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Protactinium	Pa	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Uranium	U	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Neptunium	Np	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Plutonium	Pu	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Americium	Am	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Curium	Cm	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Berkelium	Bk	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Californium	Cf	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Einsteinium	Es	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Fermium	Fm	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Mendelevium	Md	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Nobelium	No	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	
Lawrencium	Lr	OH^-	NO_3^-	CH_3COO^-	PO_4^{3-}	CO_3^{2-}	

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Chemical formula help



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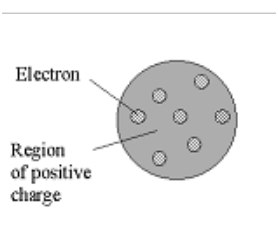
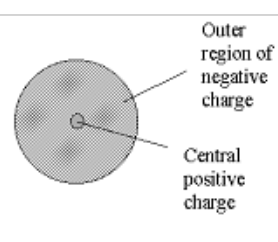
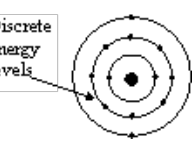
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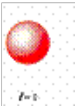
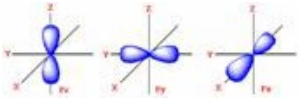
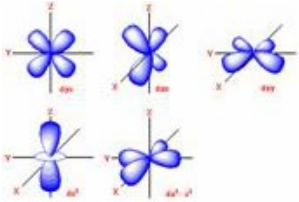
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Models of the atom

MODELS OF THE ATOM - SUMMARY

Scientists	Model	Description	Evidence
		The atom is the smallest particle of an element. The atom is a solid,	Law of Constant Proportions. (% mass composition) Law of Multiple

		indestructible unit. Atoms of different elements have different masses .	Proportions. E.g. Two compounds of nitrogen oxide. The ratio of oxygen between both compounds is 2:3.
J. Dalton	<i>The Billiard Ball model (1808)</i>		
		The 'pudding' is the positive material of an atom. The embedded 'raisins' are negative electrons .	Cathode rays (negative particles or electrons) Canal rays (positive particles with large masses)
J. J. Thomson	<i>The Plum Pudding model (1903)</i>		
		The mass and positive charge of an atom is concentrated in a small core called the nucleus . Negative electrons orbit the nucleus. The atom is mostly made up of empty space . (Ratio of nucleus diameter to outer electron orbit = 1 : 50,000)	The scattering of alpha particles through thin gold foil. A small percentage of particles were deflected at large angles, some even returning. 'it is like a cannonball rebounding off a piece of paper'
Ernest Rutherford	<i>The Nuclear model (1911)</i>	Protons & later neutrons are identified.	
		Electrons are arranged around the nucleus in discrete energy levels or shells .	Explains emission spectra (flame test) Explains patterns in the

			successive ionisation energies of an element.
Neils Bohr	<i>The Shell model (1923)</i>		
 s-orbital	 p-orbitals	Electrons exist in orbitals . i.e. an area surrounding the nucleus that has a 90% probability of containing an electron.	Better explains anomalies in successive ionisation energies and emission spectra. E.g. double yellow lines for sodium.
	 d-orbitals	Orbitals differ in shape (s, p, d, & f orbitals) and size (dependent upon energy level). No orbital may contain more than two electrons. The electrons in an orbital spin in opposite directions.	
Various Scientists Heisenburg, Schrodinger, de Broglie, Pauli	<i>The Quantum model (1935)</i>		

[◀ Atoms up Balancing chemical equations ▶](#)
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