## STAAR GRADE 8 SCIENCE REFERENCE MATERIALS



## **FORMULAS**

Density = 
$$\frac{\text{mass}}{\text{volume}}$$
  $D = \frac{m}{V}$ 

Average speed = 
$$\frac{\text{total distance}}{\text{total time}}$$
  $S = \frac{d}{t}$ 

Net force = 
$$(mass)(acceleration)$$
  $F = ma$ 

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## PERIODIC TABLE OF THE ELEMENTS

	1 1A																	18 8A
	1	]			At	omic numbe	er — 🔽	<b>—14</b>	1									2
1	<b>H</b> 1.008	2				Symbo	ol —	-Si					13	14	15	16	17	<b>He</b> 4.0026
	Hydrogen	2A	Atomic mass — 28.085										7A	Helium				
2	3	4 Do						Silicon -	lNon				5 <b>D</b>	6	7 N	8	9	10 No
	Li	Ве												-	Ne			
	6.94 Lithium	9.0122 Beryllium											10.81 Boron	12.011 Carbon	14.007 Nitrogen	15.999 Oxygen	18.998 Fluorine	20.180 Neon
	11	12											13	14	15	16	17	18
3	Na	Mg			_		_						Al	Si	P	S	CI	Ar
	22.990 Sodium	24.305 Magnesium	3 3B	4 4B	5 5B	6 6B	7 7B	_ 8	9 8B	10	11 1B	12 2B	26.982 Aluminum	28.085 Silicon	30.974 Phosphorus	32.06 Sulfur	35.45 Chlorine	39.948 Argon
4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
	39.098	40.078	44.956	47.867	50.942	51.996	54.938	55.845	58.933	58.693	63.546	65.38	69.723	72.630	74.922	78.971	79.904	83.798
5	Potassium 37	Calcium 38	Scandium 39	Titanium 40	Vanadium 41	Chromium 42	Manganese 43	Iron 44	Cobalt 45	Nickel 46	Copper 47	Zinc 48	Gallium 49	Germanium 50	Arsenic 51	Selenium 52	Bromine 53	Krypton 54
	Rb	Sr	Ÿ	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	Ϊ́n	Sn	Sb	Te	Ĭ	Xe
	85.468	87.62	88.906	91.224	92.906	95.95		101.07	102.91	106.42	107.87	112.41	114.82	118.71	121.76	127.60	126.90	131.29
	Rubidium	Strontium	Yttrium	Zirconium	Niobium	Molybdenum		Ruthenium	Rhodium	Palladium	Silver	Cadmium	Indium	Tin	Antimony	Tellurium	lodine	Xenon
6	55 <b>Cs</b>	56 <b>Ba</b>	71	72 <b>Hf</b>	73 <b>Ta</b>	74 <b>W</b>	75 <b>Re</b>	76 <b>Os</b>	77 <b>I</b> r	78 <b>Pt</b>	79 <b>A.</b> .	80 <b>H</b> a	81 <b>TI</b>	82 <b>Pb</b>	83 <b>Bi</b>	84 <b>Po</b>	85 <b>At</b>	86 <b>Rn</b>
		137.33	Lu	l .			l				Au	Hg				PO	Αι	ן ווח
	132.91 Cesium	Barium	174.97 Lutetium	178.49 Hafnium	180.95 Tantalum	183.84 Tungsten	186.21 Rhenium	190.23 Osmium	192.22 Iridium	195.08 Platinum	196.97 Gold	200.59 Mercury	204.38 Thallium	207.2 Lead	208.98 Bismuth	Polonium	Astatine	Radon
	87	88	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
7	Fr	Ra	Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	FI	Мс	Lv	Ts	Og
	Francium	Radium	Lawrencium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium	Darmstadtium	Roentgenium	Copernicium	Nihonium	Flerovium	Moscovium	Livermorium	Tennessine	Oganesson
		'				sses are not		ements with		-	-							
no stable or common isotopes.													00	07			70	1
				57 <b>La</b>	<sup>58</sup> <b>Ce</b>	59 <b>Pr</b>	60 <b>Nd</b>	61 <b>Pm</b>	62 <b>Sm</b>	63 <b>Eu</b>	64 <b>Gd</b>	65 <b>Tb</b>	66 <b>Dy</b>	67 <b>Ho</b>	68 <b>Er</b>	69 <b>Tm</b>	70 <b>Yb</b>	
	_anthani	de Serie	s \	138.91	140.12	140.91	144.24		150.36	151.96	157.25	158.93	162.50	164.93	167.26	168.93	173.05	
				Lanthanum	Cerium	140.91 Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	167.26 Erbium	Thulium	173.05 Ytterbium	
				89	90	91	92	93	94	95	96	97	98	99	100	101	102	
	Actini	de Series	s <b>\</b>	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	
			\	Actinium	232.04 Thorium	231.04 Protactinium	238.03 Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	
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Source: International Union of Pure and Applied Chemistry