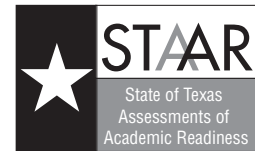


# STAAR GRADE 8 SCIENCE REFERENCE MATERIALS



## FORMULAS

$$\text{Density} = \frac{\text{mass}}{\text{volume}}$$

$$D = \frac{m}{V}$$

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

$$s = \frac{d}{t}$$

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$$\text{Net force} = (\text{mass})(\text{acceleration})$$

$$F = ma$$

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## PERIODIC TABLE OF THE ELEMENTS

1 1A	2 2A	3 3B	4 4B	5 5B	6 6B	7 7B	8 8B	9	10	11 1B	12 2B	13 3A	14 4A	15 5A	16 6A	17 7A	18 8A
1 <b>H</b> 1.008 Hydrogen	2 <b>He</b> 4.0026 Helium	3 <b>Li</b> 6.94 Lithium	4 <b>Be</b> 9.0122 Beryllium	5 <b>B</b> 10.81 Boron	6 <b>C</b> 12.011 Carbon	7 <b>N</b> 14.007 Nitrogen	8 <b>O</b> 15.999 Oxygen	9 <b>F</b> 18.998 Fluorine	10 <b>Ne</b> 20.180 Neon	11 <b>Na</b> 22.990 Sodium	12 <b>Mg</b> 24.305 Magnesium	13 <b>Al</b> 26.982 Aluminum	14 <b>Si</b> 28.085 Silicon	15 <b>P</b> 30.974 Phosphorus	16 <b>S</b> 32.06 Sulfur	17 <b>Cl</b> 35.45 Chlorine	18 <b>Ar</b> 39.948 Argon
19 <b>K</b> 39.098 Potassium	20 <b>Ca</b> 40.078 Calcium	21 <b>Sc</b> 44.956 Scandium	22 <b>Ti</b> 47.867 Titanium	23 <b>V</b> 50.942 Vanadium	24 <b>Cr</b> 51.996 Chromium	25 <b>Mn</b> 54.938 Manganese	26 <b>Fe</b> 55.845 Iron	27 <b>Co</b> 58.933 Cobalt	28 <b>Ni</b> 58.693 Nickel	29 <b>Cu</b> 63.546 Copper	30 <b>Zn</b> 65.38 Zinc	31 <b>Ga</b> 69.723 Gallium	32 <b>Ge</b> 72.630 Germanium	33 <b>As</b> 74.922 Arsenic	34 <b>Se</b> 78.971 Selenium	35 <b>Br</b> 79.904 Bromine	36 <b>Kr</b> 83.798 Krypton
37 <b>Rb</b> 85.468 Rubidium	38 <b>Sr</b> 87.62 Strontium	39 <b>Y</b> 88.906 Yttrium	40 <b>Zr</b> 91.224 Zirconium	41 <b>Nb</b> 92.906 Niobium	42 <b>Mo</b> 95.95 Molybdenum	43 <b>Tc</b> Technetium	44 <b>Ru</b> 101.07 Ruthenium	45 <b>Rh</b> 102.91 Rhodium	46 <b>Pd</b> 106.42 Palladium	47 <b>Ag</b> 107.87 Silver	48 <b>Cd</b> 112.41 Cadmium	49 <b>In</b> 114.82 Indium	50 <b>Sn</b> 118.71 Tin	51 <b>Sb</b> 121.76 Antimony	52 <b>Te</b> 127.60 Tellurium	53 <b>I</b> 126.90 Iodine	54 <b>Xe</b> 131.29 Xenon
55 <b>Cs</b> 132.91 Cesium	56 <b>Ba</b> 137.33 Barium	57 <b>Lu</b> 174.97 Lutetium	58 <b>Hf</b> 178.49 Hafnium	59 <b>Ta</b> 180.95 Tantalum	60 <b>W</b> 183.84 Tungsten	61 <b>Re</b> 186.21 Rhenium	62 <b>Os</b> 190.23 Osmium	63 <b>Ir</b> 192.22 Iridium	64 <b>Pt</b> 195.08 Platinum	65 <b>Au</b> 196.97 Gold	66 <b>Hg</b> 200.59 Mercury	67 <b>Tl</b> 204.38 Thallium	68 <b>Pb</b> 207.2 Lead	69 <b>Bi</b> 208.98 Bismuth	70 <b>Po</b> Polonium	71 <b>At</b> Astatine	72 <b>Rn</b> Radon
87 <b>Fr</b> Francium	88 <b>Ra</b> Radium	89 <b>Ac</b> Actinium	90 <b>Rf</b> Rutherfordium	91 <b>Db</b> Dubnium	92 <b>Sg</b> Seaborgium	93 <b>Bh</b> Bohrium	94 <b>Hs</b> Hassium	95 <b>Mt</b> Meitnerium	96 <b>Ds</b> Darmstadtium	97 <b>Rg</b> Roentgenium	98 <b>Cn</b> Copernicium	99 <b>Nh</b> Nihonium	100 <b>Fl</b> Flerovium	101 <b>Mc</b> Moscovium	102 <b>Lv</b> Livermorium	103 <b>Ts</b> Tennessine	104 <b>Og</b> Oganesson

Atomic number 14  
Symbol Si  
Atomic mass 28.085  
Name Silicon

Atomic masses are not listed for elements with no stable or common isotopes.

Lanthanide Series		57 <b>La</b> 138.91 Lanthanum	58 <b>Ce</b> 140.12 Cerium	59 <b>Pr</b> 140.91 Praseodymium	60 <b>Nd</b> 144.24 Neodymium	61 <b>Pm</b> Promethium	62 <b>Sm</b> 150.36 Samarium	63 <b>Eu</b> 151.96 Europium	64 <b>Gd</b> 157.25 Gadolinium	65 <b>Tb</b> 158.93 Terbium	66 <b>Dy</b> 162.50 Dysprosium	67 <b>Ho</b> 164.93 Holmium	68 <b>Er</b> 167.26 Erbium	69 <b>Tm</b> 168.93 Thulium	70 <b>Yb</b> 173.05 Ytterbium
Actinide Series		89 <b>Ac</b> Actinium	90 <b>Th</b> 232.04 Thorium	91 <b>Pa</b> 231.04 Protactinium	92 <b>U</b> 238.03 Uranium	93 <b>Np</b> Neptunium	94 <b>Pu</b> Plutonium	95 <b>Am</b> Americium	96 <b>Cm</b> Curium	97 <b>Bk</b> Berkelium	98 <b>Cf</b> Californium	99 <b>Es</b> Einsteinium	100 <b>Fm</b> Fermium	101 <b>Md</b> Mendelevium	102 <b>No</b> Nobelium