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| Lithium (Li)  atomic weight = 7  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 59* | Beryllium (Be)  atomic weight = 9  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: -241* | Boron (B)  atomic weight = 11  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 15* | Carbon (C)  atomic weight = 12  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 122* |
| Nitrogen (N)  atomic weight = 14  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: -209* | Oxygen (O)  atomic weight = 16  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 141* | Fluorine (F)  atomic weight = 19  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 330* | Sodium (Na)  atomic weight = 23  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 52* |
| Magnesium (Mg)  atomic weight = 24  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: -232* | Aluminum (Al)  atomic weight = 27  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 120* | Silicon (Si)  atomic weight = 28  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 133* | Phosphorus (P)  atomic weight = 31  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 44* |
| Sulfur (S)  atomic weight = 32  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 200* | Chlorine (Cl)  atomic weight = 36  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 350* | Potassium (K)  atomic weight = 39  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 48* | Calcium (Ca)  atomic weight = 40  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: -156* |
| Gold (Au)  atomic weight = 197  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 222* | Titanium (Ti)  atomic weight = 48  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 19* | Vanadium (V)  atomic weight = 51  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 1890* | Chromium (Cr)  atomic weight = 52  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 64* |

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| Manganese (Mn)  atomic weight = 55  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 0* | Copper (Cu)  atomic weight = 63  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 118* | Zinc (Zn)  atomic weight = 65  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: 0* | Mercury (Hg)  atomic weight = 200  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: 0* |
| Thallium (Tl)  atomic weight = 204  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 430* | Arsenic (As)  atomic weight = 75  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 817* | Selenium (Se)  atomic weight = 78  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 194* | Bromine (Br)  atomic weight = 80  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 324* |
| Rubidium (Rb)  atomic weight = 85  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 46* | Strontium (Sr)  atomic weight = 87  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: -167* | Ytrrium (Y)  atomic weight = 88  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 1500* | Zirconium (Zr)  atomic weight = 90  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 48* |
| Niobium (Nb)  atomic weight = 94  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 2500* | Molybdenum (Mo)  atomic weight = 96  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 97* | Lead (Pb)  atomic weight = 207  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 106* | Silver (Ag)  atomic weight = 108  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 125* |
| Cadmium (Cd)  atomic weight = 112  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: 0* | Indium (In)  atomic weight = 114  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 500* | Tin (Sn)  atomic weight = 118  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 121* | Antimony (Sb)  atomic weight = 122  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 630* |

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| Tellurium (Te)  atomic weight = 128  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 190* | Iodine (I)  atomic weight = 127  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 300* | Cesium (Cs)  atomic weight = 133  Oxygen Combination:  **2:1**  *Property:*  *Electron Affinity: 45* | Barium (Ba)  atomic weight = 137  Oxygen Combination:  **1:1**  *Property:*  *Electron Affinity: -52* |
| Lanthanum (La)  atomic weight = 138  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 1800* | Cerium (Ce)  atomic weight = 140  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 0* | Tantalum (Ta)  atomic weight = 182  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 3000* | Tungsten (W)  atomic weight = 184  Oxygen Combination:  **1:3**  *Property:*  *Electron Affinity: 58* |
| Bismuth (Bi)  atomic weight = 208  Oxygen Combination:  **2:5**  *Property:*  *Melting Point: 271* |  |  |  |
| \*Scandium (Sc)  atomic weight = 44  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 1000* | \*Gallium (Ga)  atomic weight = 68  Oxygen Combination:  **2:3**  *Property:*  *Boiling Pt of Salt: 200* | \*Germanium (Ge)  atomic weight = 72  Oxygen Combination:  **1:2**  *Property:*  *Electron Affinity: 116* | \*Technetium (Tc)  atomic weight = 100  Oxygen Combination:  **2:7**  *Property:*  *Electron Affinity: 68* |

Note to organizer:

If you want to reuse this activity, photocopy on colored cardstock. The final cards (with asterisk, \*) should be a different color than the rest of the cards for ease of finding and retrieving before giving an envelope of cards to the students. For example: make copies on blue, pink, green, purple cardstock. The team who gets the pink set would get the green \* cards, the team with the purple set would get the blue \* cards, etc. Keep the \* cards in a separate envelope and give to students after they have made their predictions in part 1.