**4.1 Subatomic Particles – Answer Key**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Atomic # | Mass # | # Protons | # Neutrons | # Electrons in ATOM | Ion symbol and charge | # electrons in the ION |
| Potassium | 19 | 39 | 19 | 20 | 19 | K+ | 18 |
| Phosphorous | 15 | 31 | 15 | 16 | 15 | P3- | 18 |
| Lithium | 3 | 7 | 3 | 4 | 3 | Li+ | 2 |
| Calcium | 20 | 40 | 20 | 20 | 20 | Ca2+ | 18 |
| Nitrogen | 7 | 14 | 7 | 7 | 7 | N3- | 10 |
| Helium | 2 | 5 | 2 | 3 | 2 | N/A | N/A |
| Argon | 18 | 40 | 18 | 22 | 18 | N/A | N/A |
| Aluminum | 13 | 26 | 13 | 13 | 13 | Al3+ | 10 |
| Chlorine | 17 | 37 | 17 | 20 | 17 | Cl- | 18 |
| Iodine | 53 | 127 | 53 | 74 | 53 | I- | 54 |

2) Noble gases – stable, full valence shell

3) a) 7 c) 50

b) 27 d) 5

4) a) 3 c) 16

b) 14 d) 10

5) a) 2 c) 56

b) 34 d) 10