# Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Teacher \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Class \_\_\_\_\_\_\_\_ Block \_\_\_

Date \_\_\_\_\_\_\_\_ **Nuclear Symbol WS**

For elements 1-36, answer these questions.

1. What happens to the number of electrons as you increase from one element to the next?

Increases by one

1. What always matches the number of protons?

Number of electrons

1. What happens to the mass of the elements as you move to the next element?

Increases by various amounts

1. List the elements that do not follow that pattern.

Argon/Potassium and Cobalt/Nickel

1. How do you calculate the number of neutrons?

Mass # - Protons Mass # - Atomic #

1. Finish the following table.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element | Protons | Electrons | Mass Number | Show Work | Neutrons | Nuclear Symbol | Hyphen Notation |
| Si | 14 | 14 | 28 | 28-14 | 14 | $$$$ | silicon-28 |
| Co | 27 | 27 | 59 | 59-27 | 32 | $$$$ | cobalt-59 |
| Be | 4 | 4 | 9 | 9-4 | 5 | $$$$ | beryllium-9 |
| Sc | 21 | 21 | 45 | 45-21 | 24 | $$$$ | scandium-45 |
| Ne | 10 | 10 | 20 | 20-10 | 10 | $$$$ | neon-20 |
| He | 2 | 2 | 4 | 4-2 | 2 | $$$$ | helium-4 |
| Se | 34 | 34 | 79 | 79-34 | 45 | $$$$ | selenium-79 |
| H | 1 | 1 | 1 | 1-1 | 0 | $$$$ | hydrogen-1 |
| Ar | 18 | 18 | 40 | 40-18 | 22 | $$$$ | argon-40 |
| Au | 79 | 79 | 197 | 197-79 | 118 | $$$$ | gold-197 |
| Hg | 80 | 80 | 201 | 201-80 | 121 | $$$$ | mercury-201 |
| B | 5 | 5 | 11 | 11-5 | 6 | $$$$ | boron-11 |
| Ra | 88 | 88 | 226 | 226-88 | 138 | $$$$ | radium-226 |
| Rn | 86 | 86 | 222 | 222-86 | 136 | $$$$ | radon-222 |