

Valence electrons and ions

Objectives

- Identify the number of valence electrons based on electron configurations
- Determine the charge of an ion based on valence electrons

Valence electron review

■ Valence electrons in:

- | | |
|------|------|
| • Al | • P |
| • O | • Li |
| • Na | • S |
| • Ca | • Mg |
| • Br | • N |

Ions

- Octet—Eight valence electrons
 - Noble gases already have octet
- Atoms will gain or lose e^- to become like the nearest noble gas and have an octet
- Practice: Beryllium

Charges on ions

■ Charges for:

- | | |
|------|------|
| • Al | • P |
| • O | • Li |
| • Na | • S |
| • Ca | • Mg |
| • Br | • N |

Ions

- Add charges to PT
- Will metals become anions or cations? What about nonmetals?