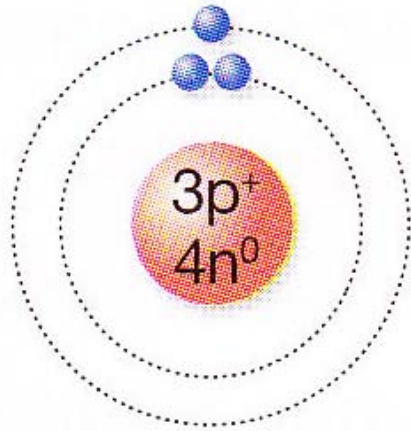
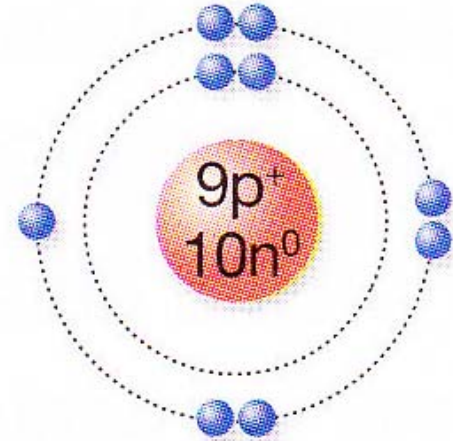


# Lesson 6: Bohr-Rutherford Diagrams

# How are electrons arranged around the nucleus?



**Li**



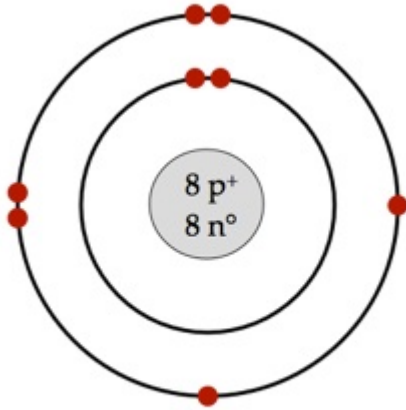
**F**

- **Electrons move around the nucleus in specific orbits.**
- The number of electrons that exist in each orbit is limited:
- **2** (first orbit), **8** (second orbit), **8** (third orbit) → 2.8.8
- When **atoms combine**, they **fill the outermost orbit with 8 electrons** → **more stable** (not reactive).

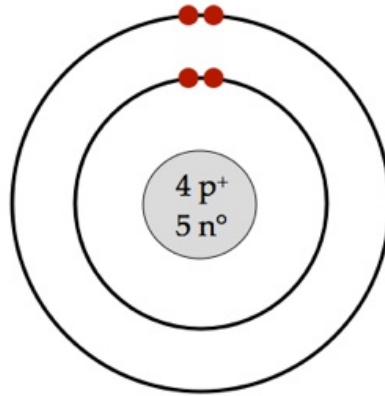
# RULES for Drawing Bohr-Rutherford Diagram for an ATOM:

1. Draw a **circle in the centre** → **nucleus**.
2. Write **number of protons (p)** and **neutrons (n)** in the centre.
3. Draw electrons in the circular orbits around the nucleus.
4. When **filling in the electrons**,
5. Fill in the order: **top, bottom, right, left** (repeat this order when there are more than 4 electrons)
6. Fill the **innermost orbits first**.
7. Add electrons from the **centre outwards**.
8. Only a **certain number of electrons** are allowed in each **orbit**.
9. **First orbit:** **2 electrons**
  - **Second orbit:** **8 electrons**
  - **Third orbit:** **8 electrons**

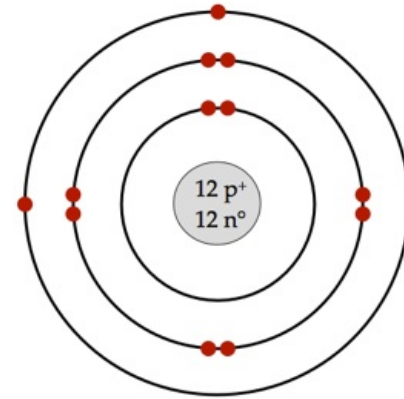
# Answers to Examples



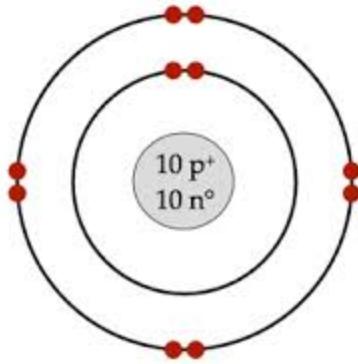
Oxygen



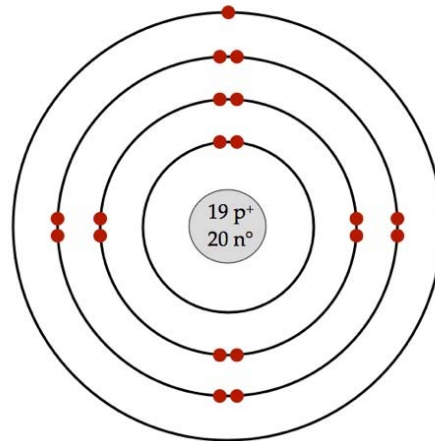
Beryllium



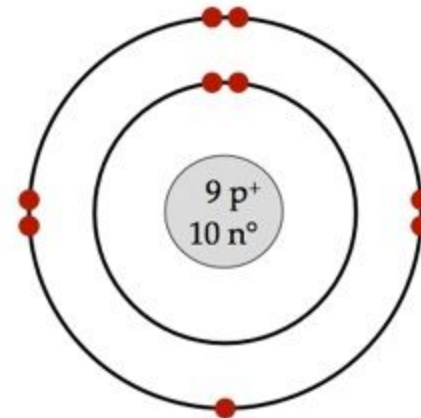
Magnesium



Neon



Potassium



Fluorine