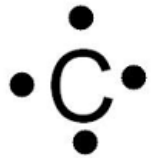
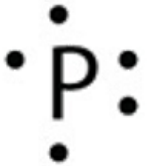
Periodic Table Basics

Atomic Number →
Atom's Name →
Atomic Mass →
Lewis Diagram →

1 P = 1 N = 0 H E = 1 Hydrogen 1.00							2 P = 2 N = 2 He E = 2 Helium 4.00
							
3 P = 3 N = 4 Li E = 3 Lithium 6.94	4 P = 4 N = 5 Be E = 4 Beryllium 9.01	5 P = 5 N = 6 B E = 5 Boron 10.81	6 P = 6 N = 6 C E = 6 Carbon 12.01	7 P = 7 N = 7 N E = 7 Nitrogen 14.00	8 P = 8 N = 8 O E = 8 Oxygen 16.00	9 P = 9 N = 10 F E = 9 Fluorine 19.00	10 P = 10 N = 10 Ne E = 10 Neon 20.18
							
11 P = 11 N = 12 Na E = 11 Sodium 22.99	12 P = 12 N = 12 Mg E = 12 Magnesium 24.30	13 P = 13 N = 14 Al E = 13 Aluminum 26.98	14 P = 14 N = 14 Si E = 14 Silicon 28.09	15 P = 15 N = 16 P E = 15 Phosphorus 30.99	16 P = 16 N = 16 S E = 16 Sulfur 32.07	17 P = 17 N = 18 Cl E = 17 Chlorine 35.45	18 P = 18 N = 22 Ar E = 18 Argon 39.95
							

Periodic Table Basics

Step 1: Complete the Periodic Table Basics Chart. Your chart will include the element's:

(a) atomic number

(b) name

(c) atomic mass

(d) number of protons, neutrons, and electrons

(e) Lewis diagram

Step 2: Shade the upper rectangle for each element. Elements in the same column should be shaded with the same colour.

Step 3: Answer the following questions.

1. What is meant by the following statement:

An ion has a complete outer shell.

An ion is an atom that has gained or lost electrons in order to have a full outer shell and by doing so has become either negatively or positively charged.

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2. Do all atoms require the same number of electrons to complete their outermost shell? Explain.

No – The first shell only holds 2 electrons, shells 2 and 3 hold 8 electrons each so it doesn't take the same number of electrons to fill them even if elements are in the same group/family.

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3. Which three elements on your chart have a complete outer shell? Give the name and symbol for each.

(a) Helium (He) (b) neon (Ne) (c) argon (Ar)

4. What do you notice about the location of the elements in question # 3?

They are all in Group 8, Noble Gas family

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5. Which elements have only one electron in its outermost shell?

H, Li, Na