JBSP Mandal's Art & Science College, Department Of Chemistry

Topic : The Noble Gas

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The Noble Gases

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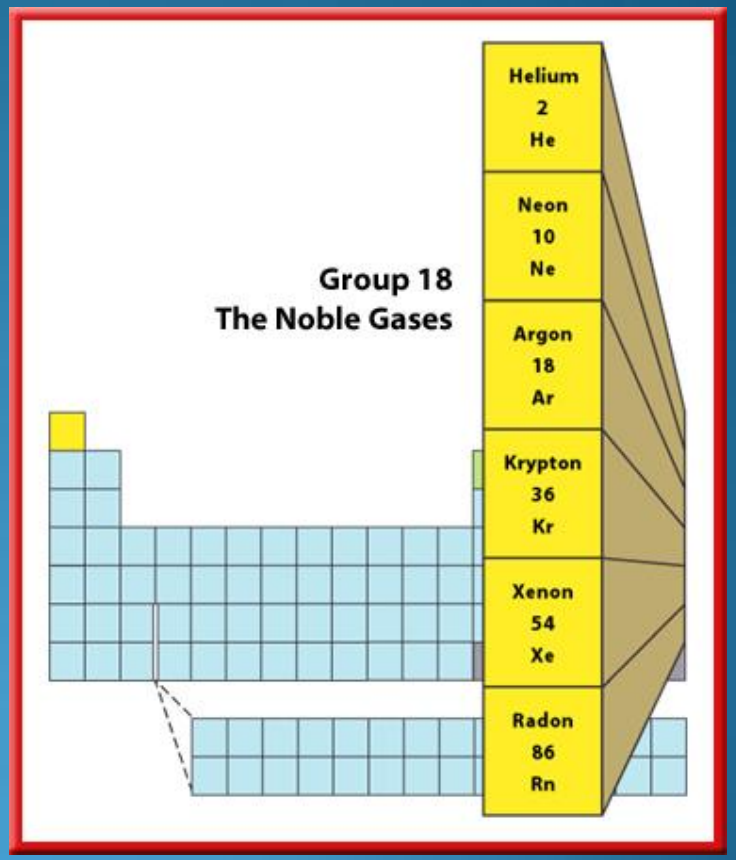
Group 18—The Noble Gases

- The Group18 elements are called the **noble gases**.
- This is because they rarely combine with other elements and are found only as uncombined elements in nature.
- Their reactivity is very low.



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Group 18—The Noble Gases

- Helium is less dense than air, so it's great for all kinds of balloons.

- Helium balloons lift instruments into the upper atmosphere to measure atmospheric conditions.

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Group 18—The Noble Gases

- Even though hydrogen is lighter than helium, helium is preferred for these purposes because helium will not burn.

Uses for the Noble Gases

- The “neon” lights you see in advertising signs can contain any of the noble gases, not just neon.

- Electricity is passed through the glass tubes that make up the sign.

Uses for the Noble Gases

- The electricity causes the gas to glow.
- Each noble gas produces a unique color.

- Helium glows yellow, neon glows red-orange, and argon produces a bluish-violet color.

Uses for the Noble Gases

- Argon, the most abundant of the noble gases on Earth, was first found in 1894.
- Krypton is used with nitrogen in ordinary lightbulbs because these gases keep the glowing filament from burning out.
- Krypton lights are used to illuminate landing strips at airports, and xenon is used in strobe lights and was once used in photographic flash cubes.

Uses for the Noble Gases

- At the bottom of the group is radon, a radioactive gas produced naturally as uranium decays in rocks and soil.
- If radon seeps into a home, the gas can be harmful because it continues to emit radiation.
- When people breathe the gas over a period of time, it can cause lung cancer.