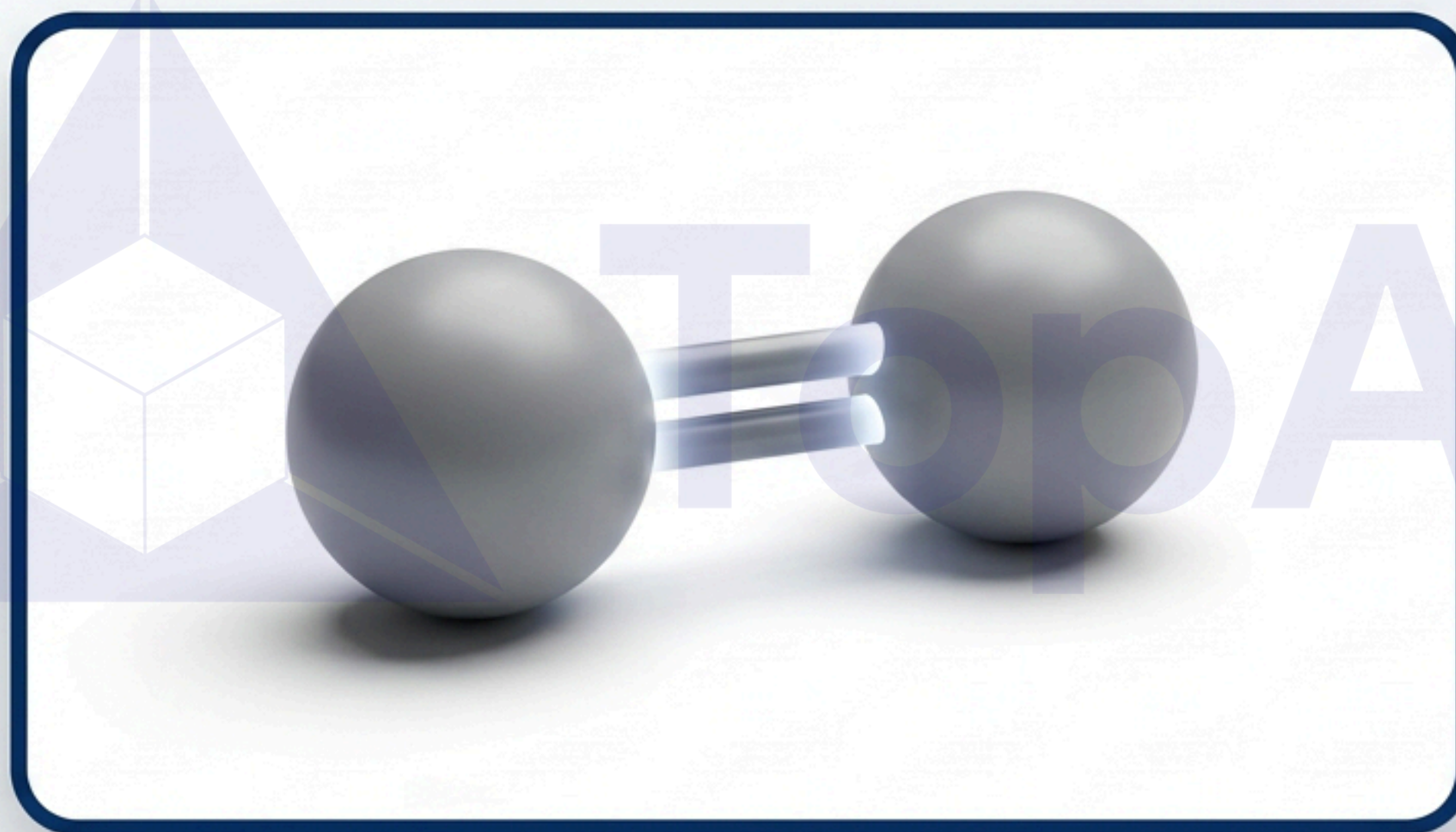
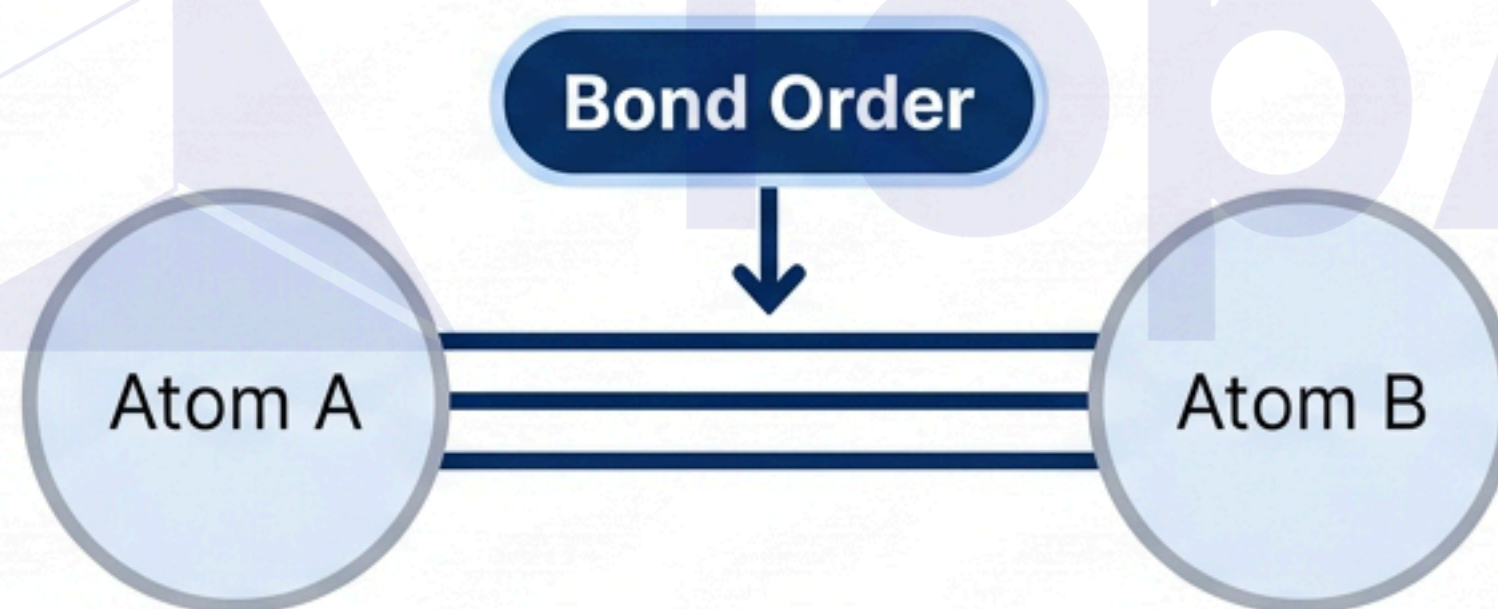


4.3.4 Bond Order



Defining Bond Order

The number of bonds between two atoms in a molecule.



In the Lewis description of a covalent bond, this is determined by counting the shared electron pairs.

Common Diatomic Examples

H_2



1

O_2



2

N_2



3

CO



3

Notice that CO and N_2 share the same highest bond order of 3, featuring three shared electron pairs.



**You've Learned the Theory.
Let's Test Them Now.**

$$E=mc^2$$



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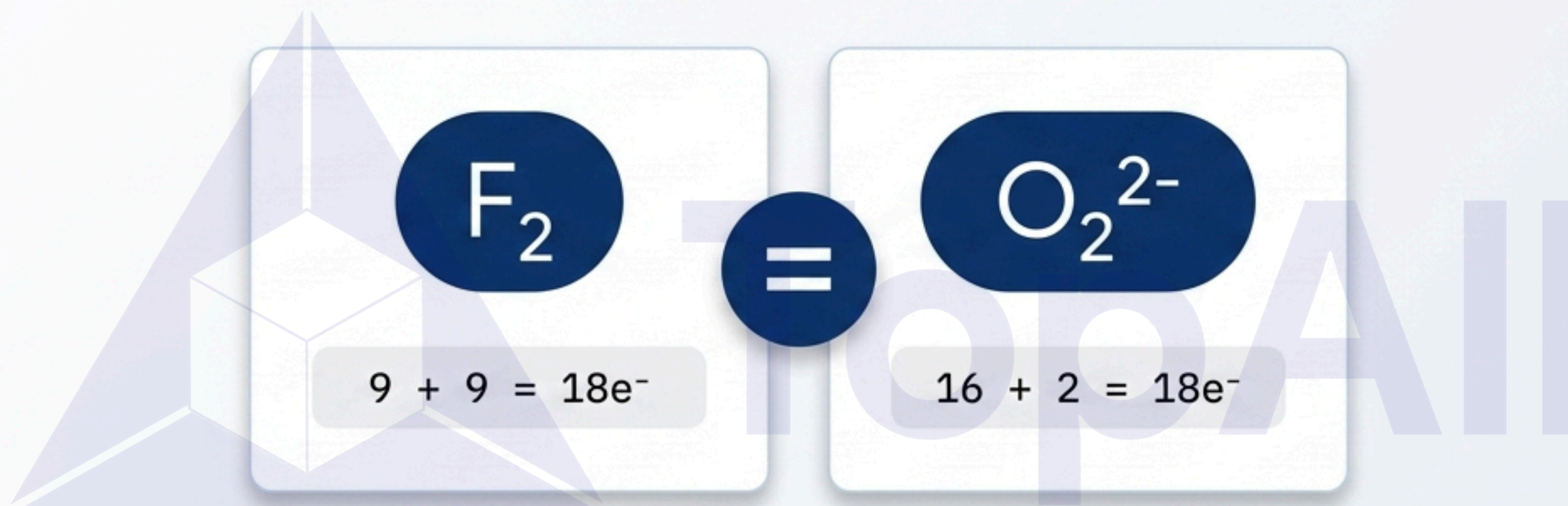
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Key Highlights

- » Free Study Material, Videos & Infographics
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- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
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Isoelectronic Species



Total Electrons
= Identical



Molecular Orbitals =
Identical



Bond Order =
Identical

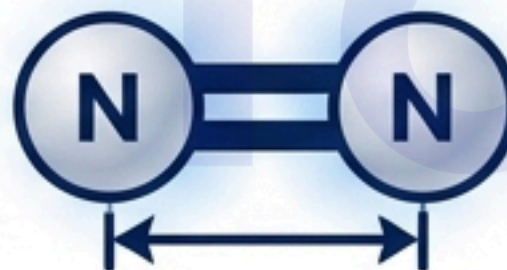
Both F_2 and O_2^{2-} are isoelectronic. Therefore, they share an identical Bond Order of 1.

The Master Trend

Higher
Bond Order



Shorter
Bond Length



Higher Bond
Enthalpy



With increase in bond order, bond enthalpy increases and bond length decreases.



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