# Checking an Oxygen Bond After Electrons Enter

Scoring guide · one credit per question · review written work against each rubric

### Checking an Oxygen Bond After Electrons Enter

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### Question 1

Choice (3)

The largest listed length is 149 pm for $O_2^{2-}$.

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### Question 2

The charge becomes −1 and the bond model changes from order 2 to 1.5. The particle still contains two oxygen atoms.

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### Question 3

The 149 pm reading points to $O_2^{2-}$ with two extra electrons. One extra electron points to $O_2^{-}$ with a 133 pm bond. The readouts select different rows.

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### Question 4

Draw O=O for neutral $O_2$ and a single line O–O for $O_2^{2-}$. Label the first particle 0 and the second −2 overall. Lone pairs are not required.