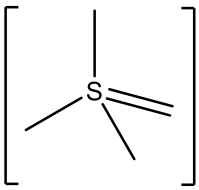
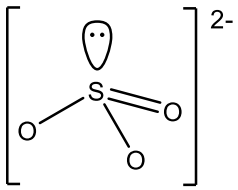
Predict the molecular shape of the sulfite ion.

The molecular shape of the sulfite ion is bent. The sulfite ion, SO_3^{2-}, is composed of a central sulfur atom bonded to three oxygen atoms. The sulfur atom has a valence electron configuration of $3s^2 3p^4$, and the three oxygen atoms each have a valence electron configuration of $2s^2 2p^4$.

The central atom has 6 valence electrons it uses 4 electrons to form bonds with oxygen atoms, the other 2 electrons represent 1 lone electronic pair. The steric number of the molecule is 4, with a tetrahedral electronic geometry.



Distribute oxygen atoms and determine the molecular shape.



Trigonal pyramidal shape