

Step-by-Step Guide to Naming Organic Molecules

1. **Redraw the structure.**
2. **Identify the parent functional group.**
3. **Identify the longest chain bearing that group.** [This is not always the longest chain in the molecule. See, **example (c)** below].
4. **Number the longest chain so that the parent group is given the lowest possible number.** [You **must** assign one of the two end carbons on the chain as C-1].
5. **Identify the positions of all C=C or C≡C groups in the longest chain.**
6. **Identify and number all substituents on the chain. Every substituent MUST have a number, which is placed immediately before that substituent.** When identifying the site of the parent group, the number is **usually** placed in front of the 'last word'.
7. **If there are several substituents of the same type, name them as a group, with a prefix, e.g., di-, tri- etc., that defines the number of that substituent [see Table 2].**
8. **[Identify all stereocenters in the molecule].** We shall discuss this topic later
9. **Place all substituents in alphabetical order. Each substituent is preceded by the number of its position on the carbon chain.** Do NOT include any prefixes that define multiple substituents, e.g. di-, tri-, in this process.
10. **Write down the name of the molecule linking alphabetized substituents and site numbers by hyphens, where appropriate. The last substituent on the molecule is placed at the start of the 'final word', when possible.**

The 'learning' template below will streamline the process.

TEMPLATE FOR NAMING AN ORGANIC MOLECULE

	OBSERVATION	IMPLICATION
Parent Group and Site		
Longest Carbon Chain/Ring		
# C=C or C≡C bonds and Site		
Final Word		
Substituents and Sites		
Alphabetizing substituents		

The template provides a 'check-off' list that is easier to use than the ten rules listed above. Please work through these examples carefully, and pay attention to the footnotes. The examples were chosen to deal with some of the issues that can be awkward in working nomenclature problems.