Topics: Carbon and its Compounds
Subtopics: Bonding in Carbon - the Covalent Bond,Versatile Nature of Carbon

Why Carbon forms Covalent Bonds?

Carbon is a non-metal having the symbol 'C' and atomic number six. Since the atomic number of carbon is six, its electronic configuration is 2, 4.
In order to complete its octet i.e., to attain its noble gas configuration and to stabilize itself, carbon can:
Either lose four electrons to form C4+ or gain four electrons to form C4-. This, however, requires a lot of energy and would make the system unstable.
Therefore, carbon completes its octet by sharing its four electrons with the other carbon atoms or with atoms of other elements.
The bonds that are formed by sharing electrons are known as covalent bonds.

Do you know that the number of carbon compounds outnumber the compounds of all the other elements taken together?
The number of carbon compounds is so vast that there is one branch of chemistry dedicated only to the study of carbon and its compounds. This branch is known as **organic chemistry.**

Do you know why carbon is a part of so many compounds? Which properties of carbon help it to be a part of so many compounds?
Here, we will try to find the answers to these questions.
The most important property of carbon that allows it to be a part of so many compounds is catenation. Catenation is the ability of an element to combine with itself through covalent bonds.