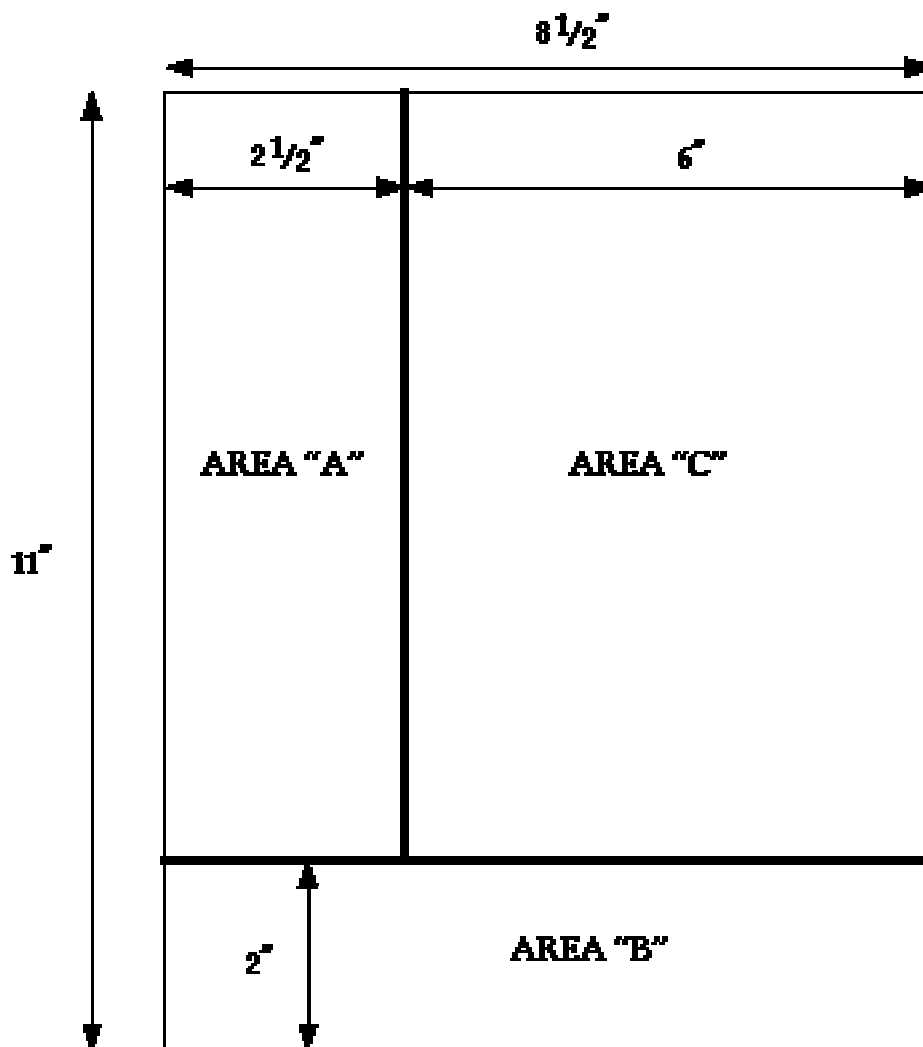


The Cornell Note Taking System

The Cornell note-taking system was developed by Walter Pauk, an emeritus professor of education here at Cornell. You can learn more about this note-taking framework by reading Chapter 5 in Pauk's book, How to Study in College (5th ed.).

Page Layout

The distinguishing feature of the Cornell system is the layout of the pages on which you take your notes. The page layout includes large margins on the left and bottom of the page. A picture of this layout (not to scale), with dimensions, is shown below. A discussion of the 3 areas of the Cornell system page follows. Finally, an example of the Cornell system is provided (typed for neatness), using actual notes from the Chem 104 lecture given on 1/24/96.



Area "A" -- The Cue Column

The space to the left of the vertical margin should be reserved for a cue column. You should not write in this area during the lecture, while you are taking notes. The cue column is not created until you review your notes (which, ideally, you do as soon after the lecture as possible, and certainly before the next lecture). As you study the material in your notes, you should devise questions which the notes answer (think "Jeopardy"). These questions are the "cues" that should be written in the cue column. By writing questions, you are forced to think about the lecture material in a way that clarifies meaning, reveals relationships, establishes continuity, and, most importantly, strengthens memory.

Area "B" -- The Summary Space

The area below the horizontal margin near the bottom of the page should be reserved for a summary of the notes on that page. Your summary should be brief -- at most, only a few sentences. The page summary provides a concise review of the important material on the page, useful for later reference. More importantly, in writing a summary, you are forced to view the material in a way that allows you to see how it all fits together, in a general sense. The summary should be helpful in allowing you to see how specific facts fit into the broader landscape.

Area "C" -- The Note-Taking Area

The space to the right of the vertical margin is where you actually record your notes during the lecture. Pick a note-taking format with which you are comfortable -- there are no hard-and-fast rules for this aspect of the Cornell system. However, you should not attempt to transcribe verbatim every word spoken by the instructor. It is usually not difficult to separate the essential material from the non-essential. For instance, if information is written on the blackboard, it is probably important enough to include in your notes. To avoid missing information during the lecture, you should develop a system of abbreviations you understand, and you should write in telegraphic sentences (where you only include enough words to carry the essential meaning). As you take notes, realize that your emphasis should be on the key ideas, rather than the actual words used to convey those ideas.

AN EXAMPLE OF THE CORNELL SYSTEM
(from the Chem 104 lecture of 1/24/96)

What is a cation?
 What is an anion?
 What is a salt?

What causes electrons to be transferred from neutral atoms to form ions?

Why is there no such thing as an ionic molecule?

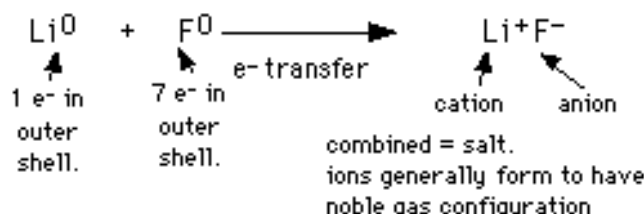
Why is it difficult to form a cation or anion from carbon?

What type of bond does carbon form?

Chemical Bonding

Ionic Bonding

Consider rxn. of Li with F:

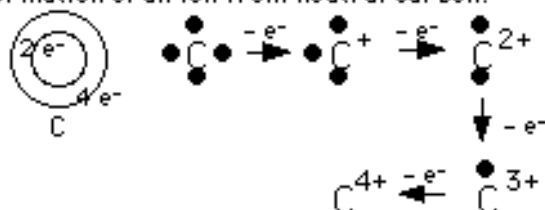


NO SUCH THING AS AN IONIC MOLECULE!!!

Specific ions are not bonded to each other. An ionic compound consists of individual ions packed together in a lattice, held together by electrostatic attractions.

Evidence = ability of many ionic compounds to dissolve in water. Ions can freely move away from each other in the solution.

Consider formation of an ion from neutral carbon:



Once the first electron is removed, it is extremely difficult to remove more electrons because of the positive charge. Great input of energy to form +4 ion.

Similar problem in trying to form -4 ion, because it is difficult to add more electrons to something that is already negatively charged.

Solution = share electrons and form covalent bonds.

Atoms can gain or lose electrons to form ions and attain a stable noble gas configuration. Ionic compounds consist of a lattice of cations and anions formed in this way. Carbon is not likely to form an ion because it would to gain or lose too many electrons. Consequently, C tends to share electrons to form covalent bonds.