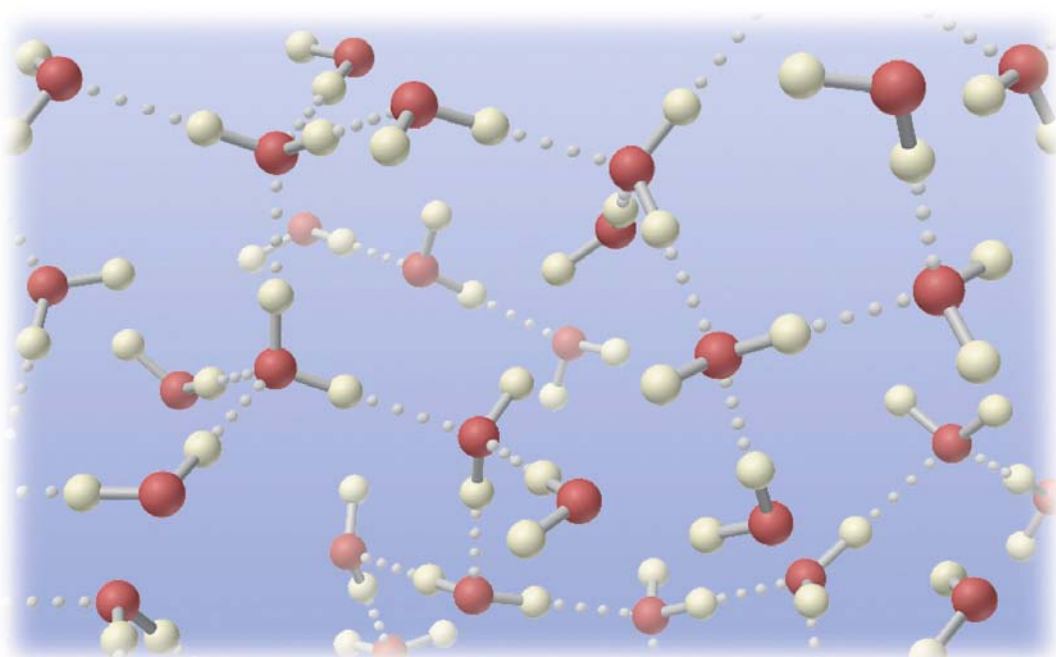


Topic:	Properties of Covalent Compounds
Objective:	FK_03_07
Given a covalent compound the student must be capable of doing the following: <ul style="list-style-type: none">• describe the properties of the compound	

Molecular Solids

Molecular solids consist of molecules held together by intermolecular forces (dipole-dipole forces, London dispersion forces, and hydrogen bonds). Because these forces are weak, molecular solids are soft. Furthermore, they normally have relatively low melting points (usually below 200 °C). Most substances that are gases or liquids at room temperature form molecular solids at low temperatures. Examples include water and carbon dioxide.



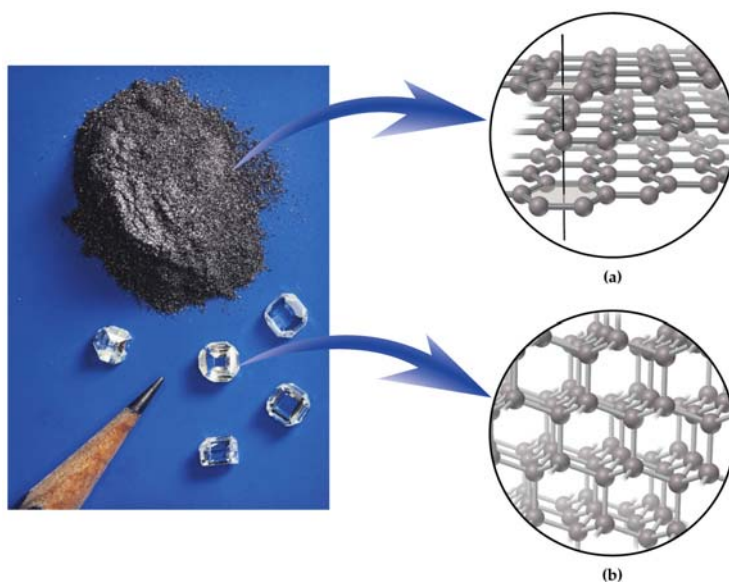
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Covalent-Network Solids

Covalent-network solids consist of atoms held together in large networks or chains by covalent bonds. Because covalent bonds are much stronger than intermolecular forces, these solids are much harder and have higher melting points than molecular solids.

Two of the most familiar examples of covalent-network solids are diamond (b) and graphite (a). Other examples include quartz (SiO_2), silicon carbide (SiC) and boron nitride (BN).

In diamond each carbon atom is bonded to four other carbon atoms: this array of carbon-carbon bonds contributes to diamond's unusual hardness.



http://wps.prenhall.com/wps/media/objects/602/616516/Media_Assets/Chapter10/Text_Images/FG10_26.JPG

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