Classroom Photocopying Permission

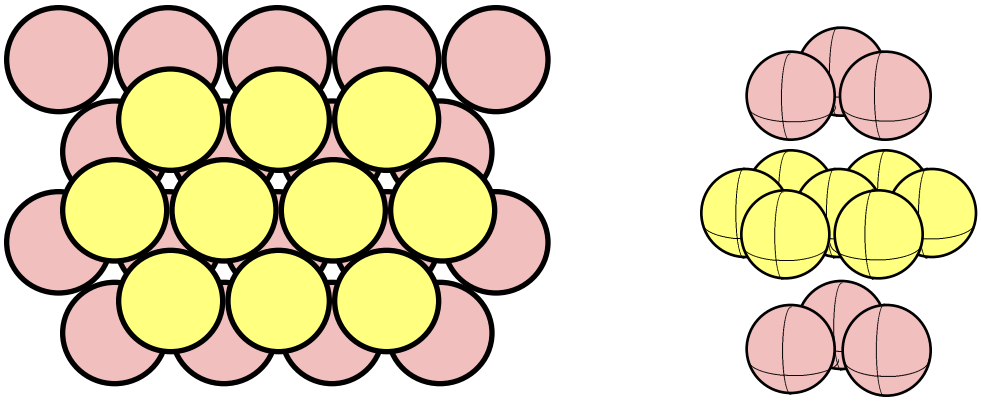
Laboratory Safety

DISCLAIMER

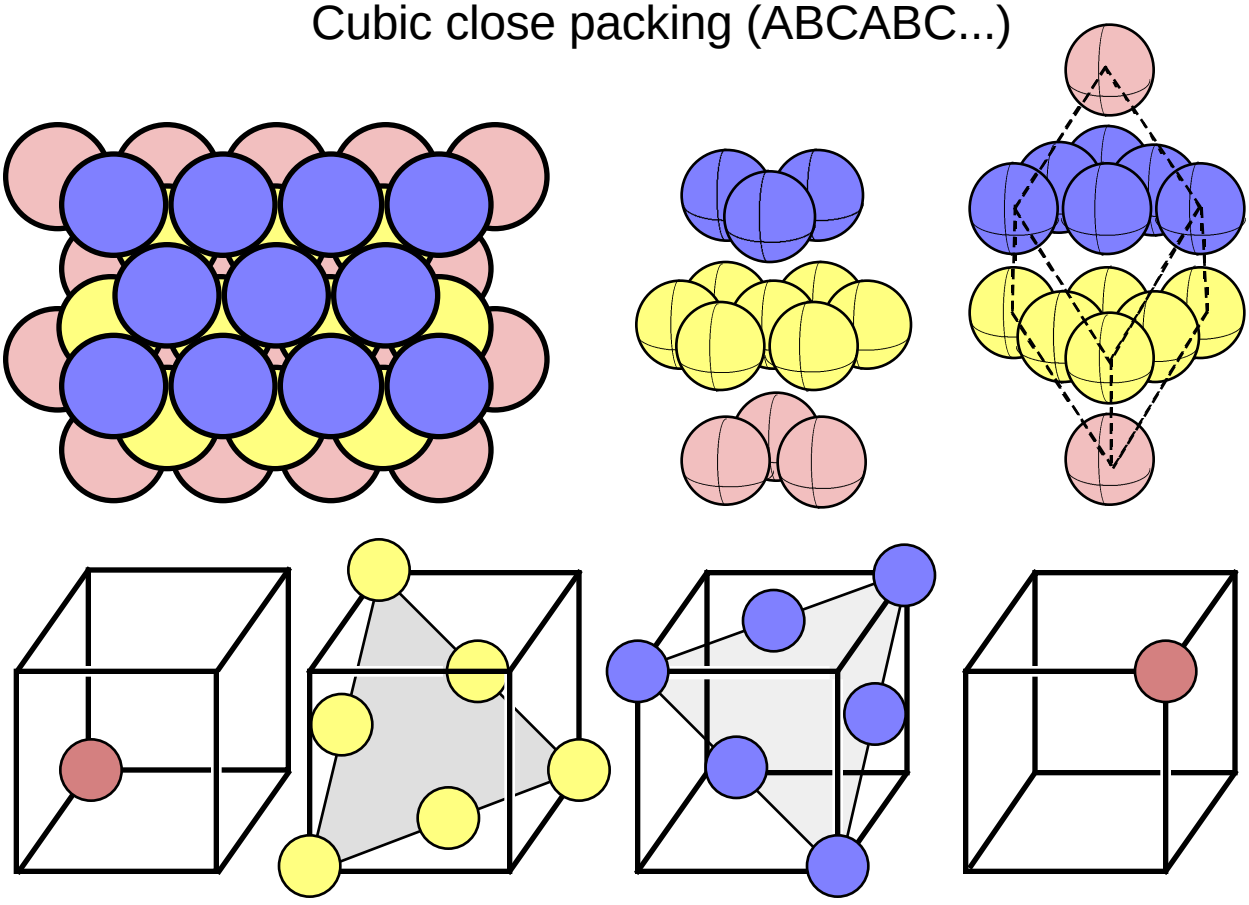
Safety information is included in each chapter of the Companion as a precaution to the readers. Although the materials, safety information, and procedures contained in this book are believed to be reliable, they should serve only as a starting point for laboratory practices. They do not purport to specify minimal legal standards or to represent the policy of the American Chemical Society. No warranty, guarantee, or representation is made by the American Chemical Society, the authors, or the editors as to the accuracy or specificity of the information contained herein, and the American Chemical Society, the authors, and the editors assume no responsibility in connection therewith. The added safety information is intended to provide basic guidelines for safe practices. Therefore, it cannot be assumed that necessary warnings or additional information and measures may not be required. Users of this book and the procedures contained herein should consult the primary literature and other sources of safe laboratory practices for more exhaustive information. See page xxv in the Text 0 Preface file in the Companion Text folder for more information.

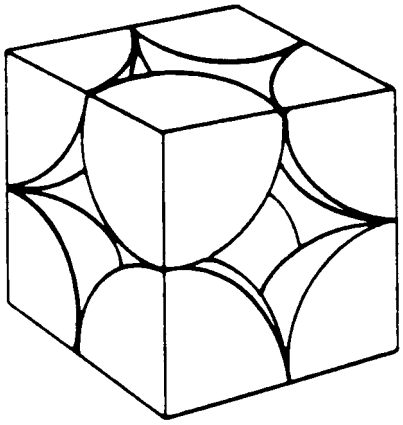
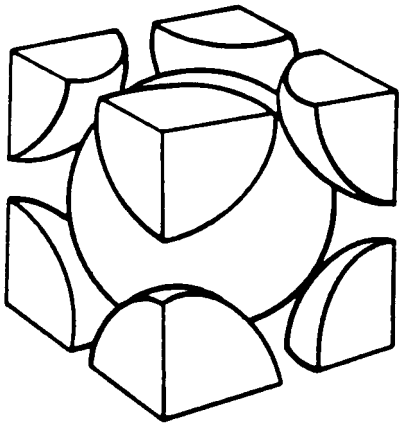
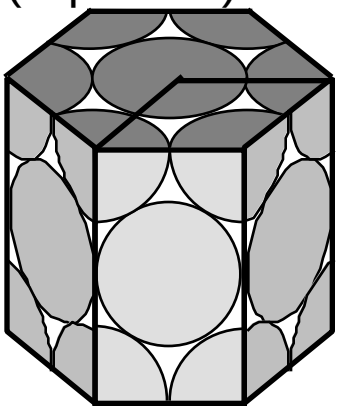
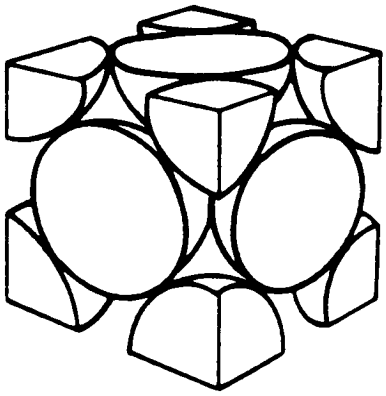
Close Packing

Hexagonal close packing (ABABAB...)

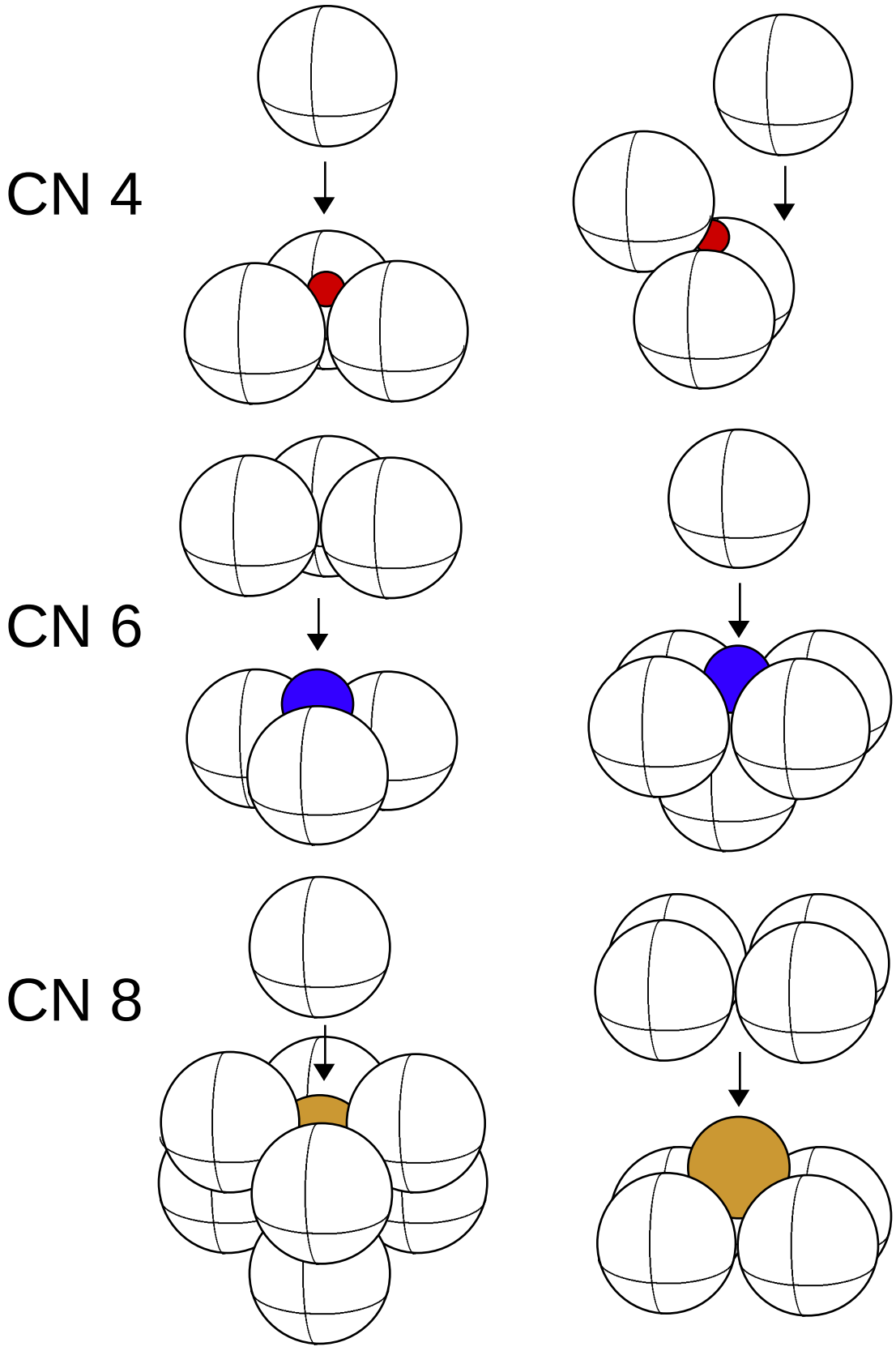


Cubic close packing (ABCABC...)

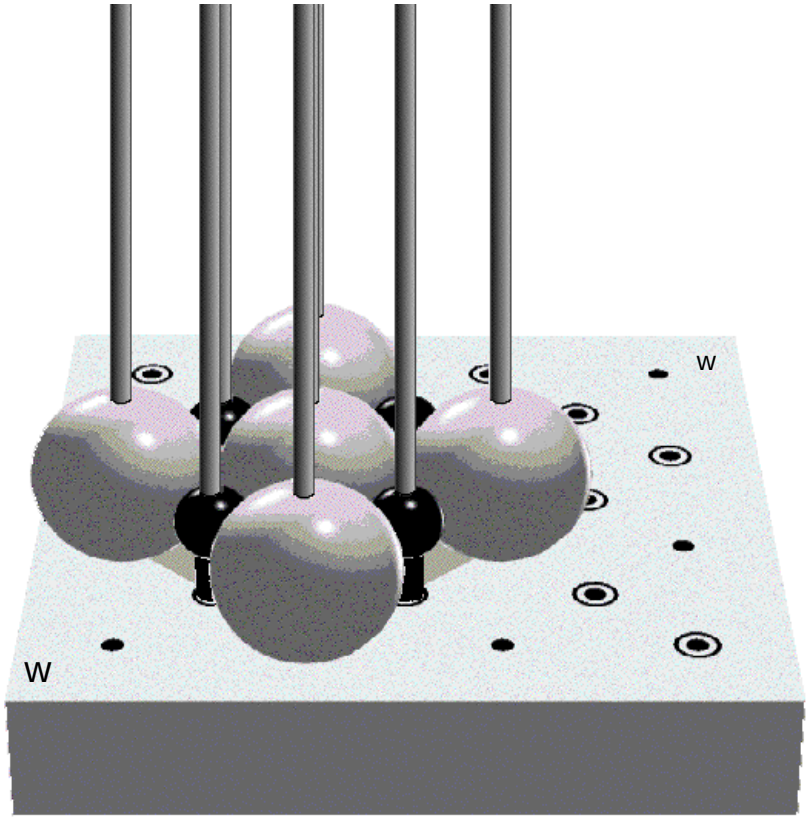


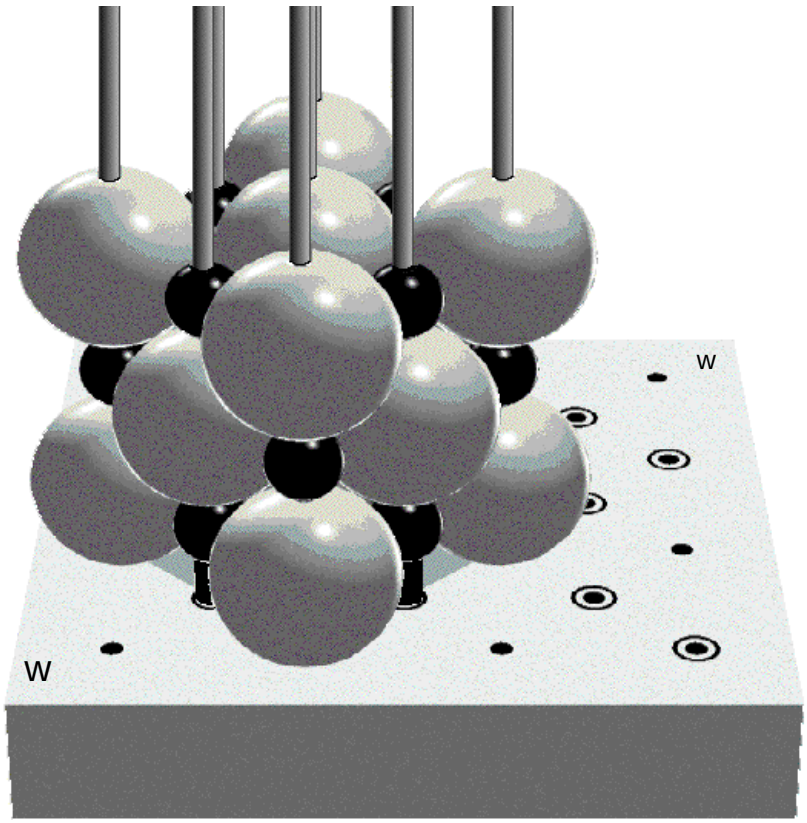
Type of Packing	Packing Efficiency	Coordination Number
Simple cubic (sc)		
	52%	6
Body-centered cubic (bcc)		
	68%	8
Hexagonal close-packed (hcp)	74%	12
Cubic close-packed (ccp or fcc)	74%	12
		

Tetrahedral, Octahedral, and Cubic Holes

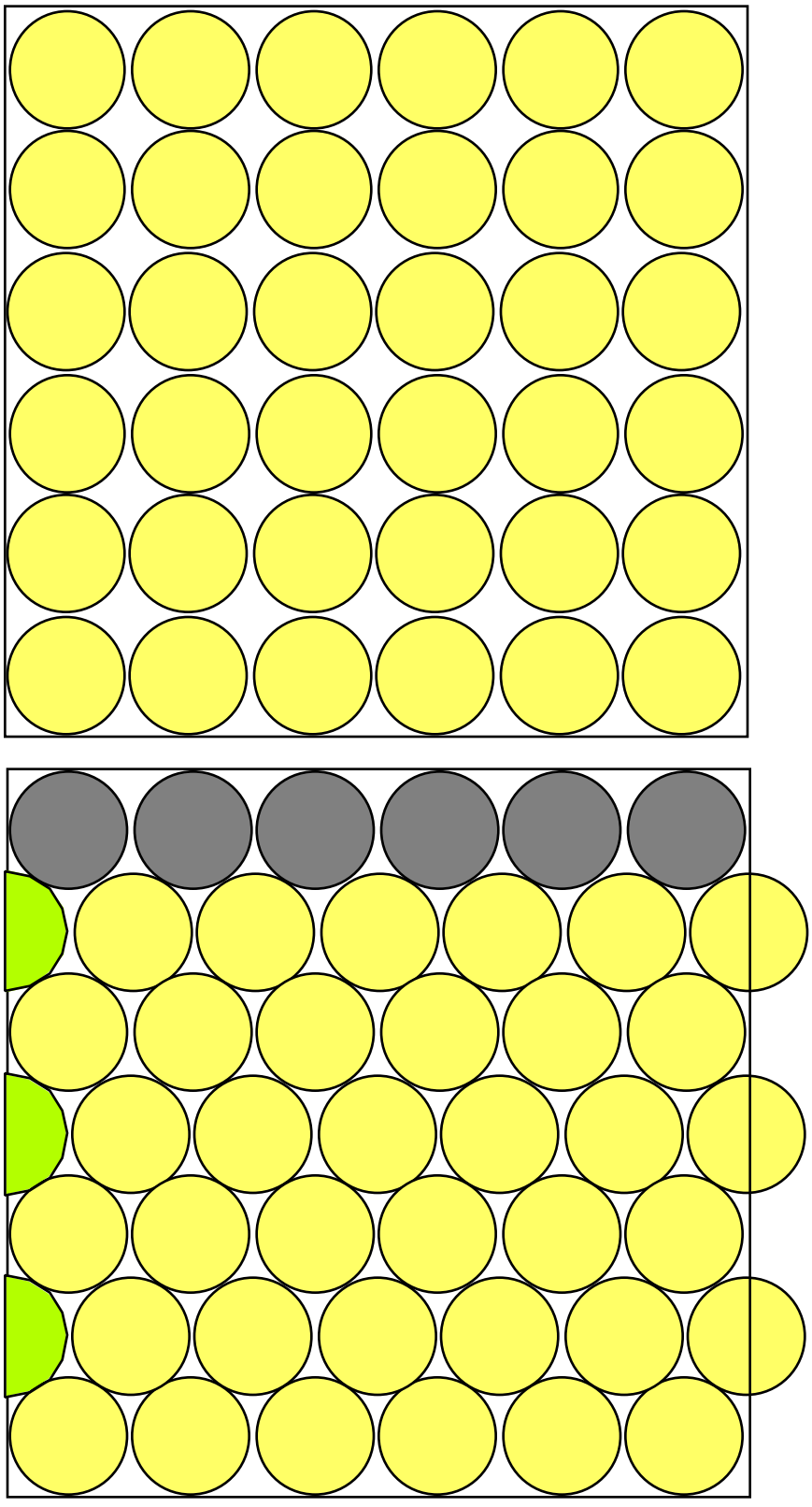


NaCl Structure

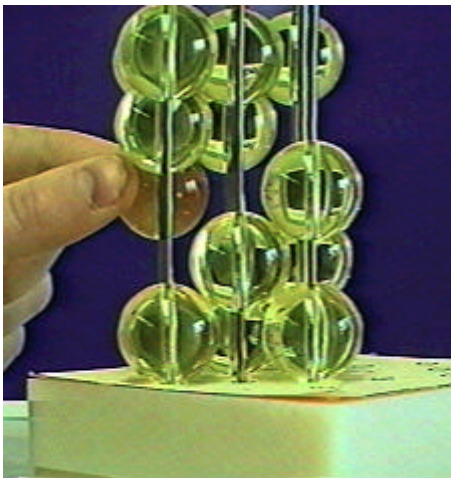


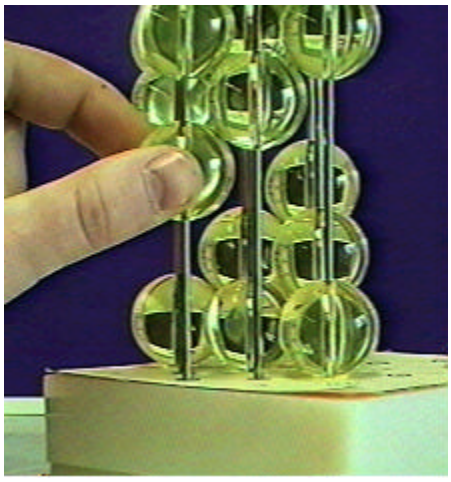


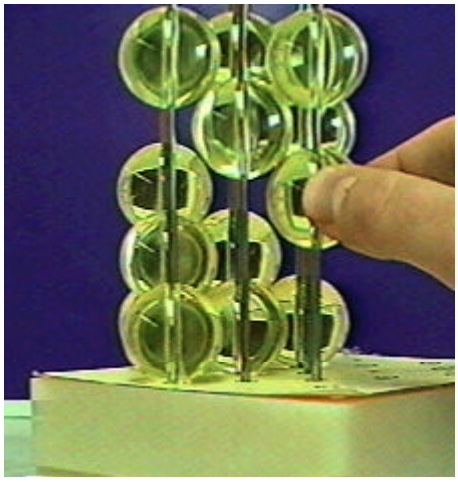
Square-Packing vs Close Packing



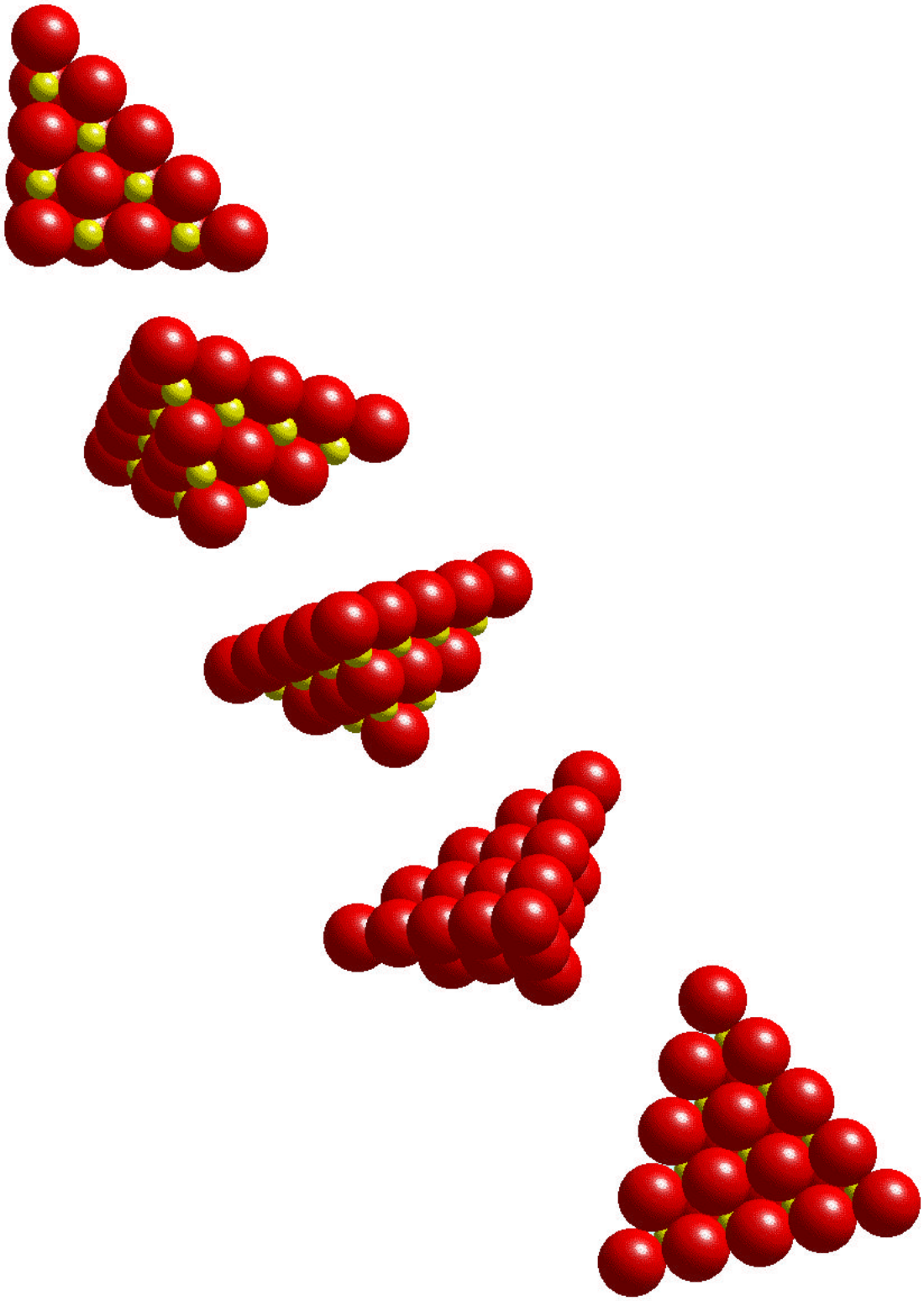
FCC Slip Planes





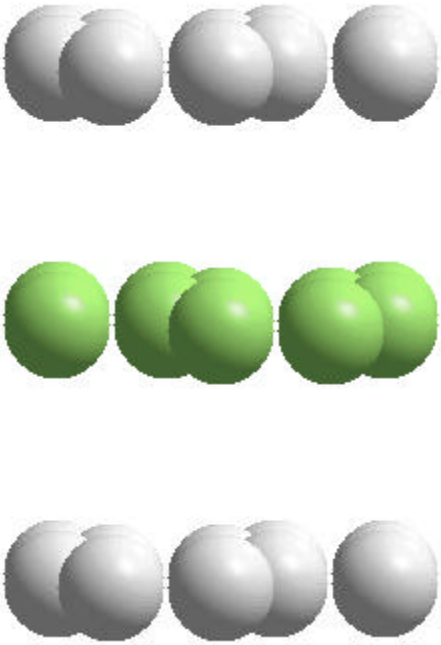


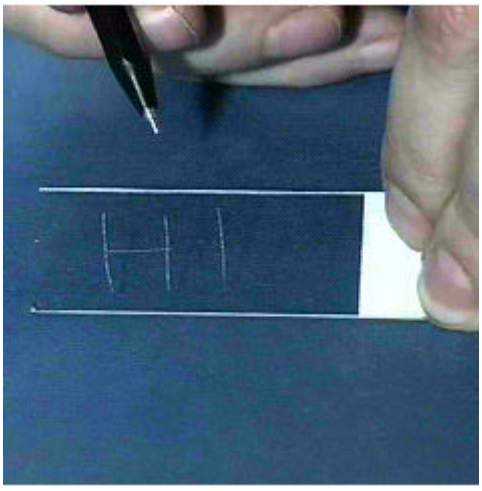
FCC and CCP



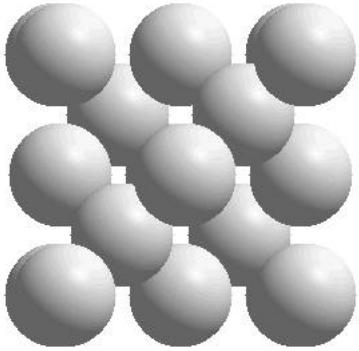
Carbon Pencils

Graphite

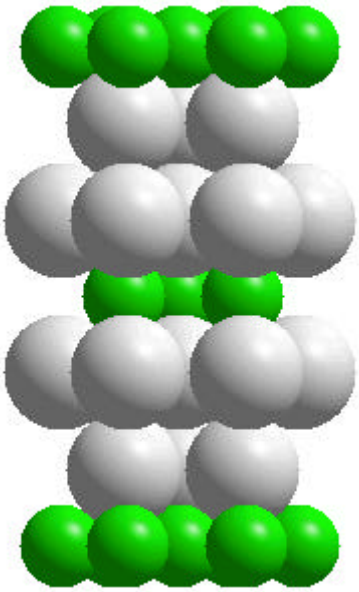




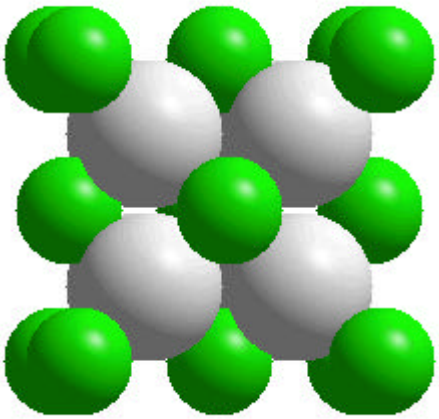
Diamond



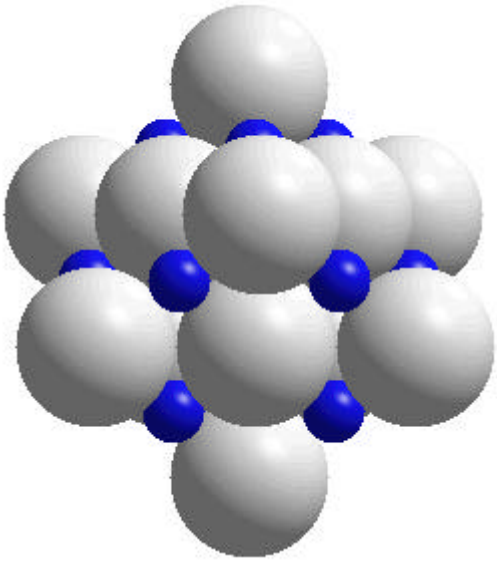
Molybdenum Sulfide



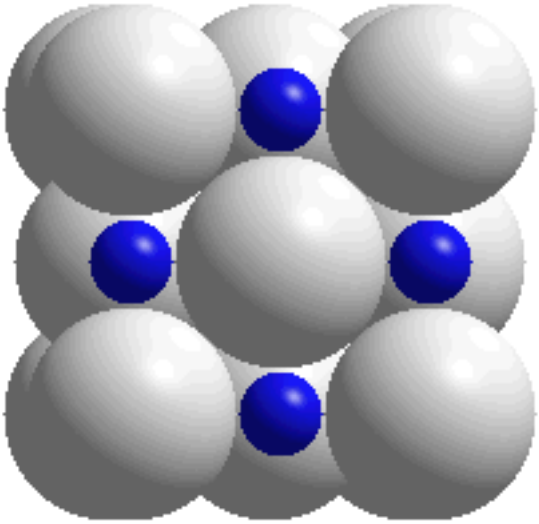
Calcium Fluoride



Rock Salt



Lead Sulfide



Silicon Wafer