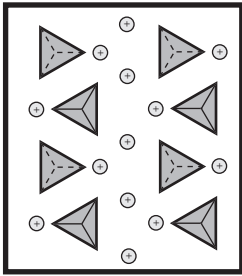
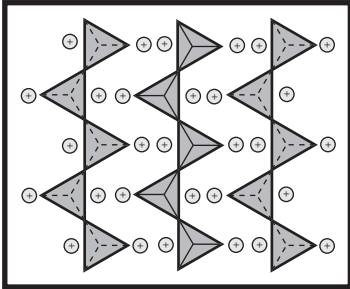
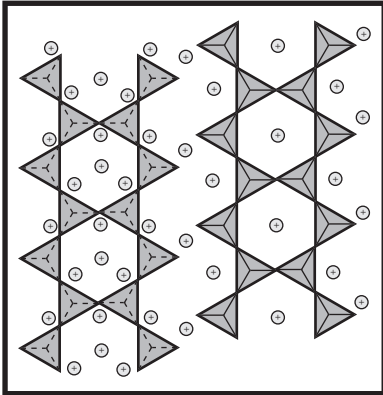
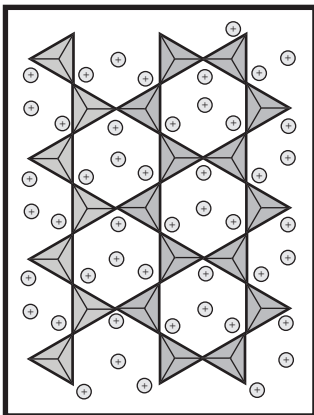


Name: \_\_\_\_\_

# Geology Handout #1 - Silicate Structures

Structure	Cleavage	Si:O Ratio	Minerals
<p>1. Independent Tetrahedra (Nesosilicates)</p> 			<p>Olivine (<i>Fayalite</i>) <math>Fe_2SiO_4</math> Garnet (<i>Pyrope</i>) <math>Mg_3Al_2Si_3O_{12}</math></p> <p><i>Lab 2 Minerals:</i> Olivine, Garnet</p>
<p>2. Single Chains (Inosilicates)</p> 			<p>Pyroxene (<i>Enstatite</i>) <math>MgSiO_3</math> Pyroxene (<i>Diopside</i>) <math>CaMgSi_2O_6</math></p> <p><i>Lab 2 Minerals:</i> Augite</p>
<p>3. Double Chains (Inosilicates)</p> 			<p>Amphibole (<i>Tremolite</i>) <math>Ca_2Mg_5Si_8O_{22}(OH)_2</math></p> <p><i>Lab 2 Minerals:</i> Hornblende</p>
<p>4. Sheets (Phyllosilicates)</p> 			<p>Talc <math>Mg_3Si_4O_{10} \cdot (OH)_2</math> Biotite <math>K(Mg,Fe)_3AlSi_3O_{10} \cdot (OH)_2</math></p> <p><i>Lab 2 Minerals:</i> Kaolinite, Talc, Muscovite, Biotite, Chlorite</p>
<p>5. 3D Frameworks (Tectosilicates)</p> <p>See textbook Figure 3.29.</p>			<p>Quartz <math>SiO_2</math> Plagioclase <math>CaAl_2Si_2O_8</math></p> <p><i>Lab 2 Minerals:</i> Potassium Feldspar, Plagioclase, Quartz</p>