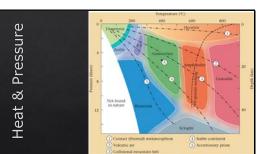
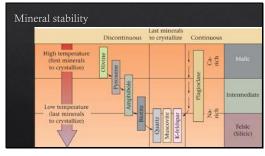
Metamorphic Environments and Rock

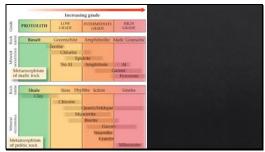
University of Northern Iowa – Earth and Environmental Science





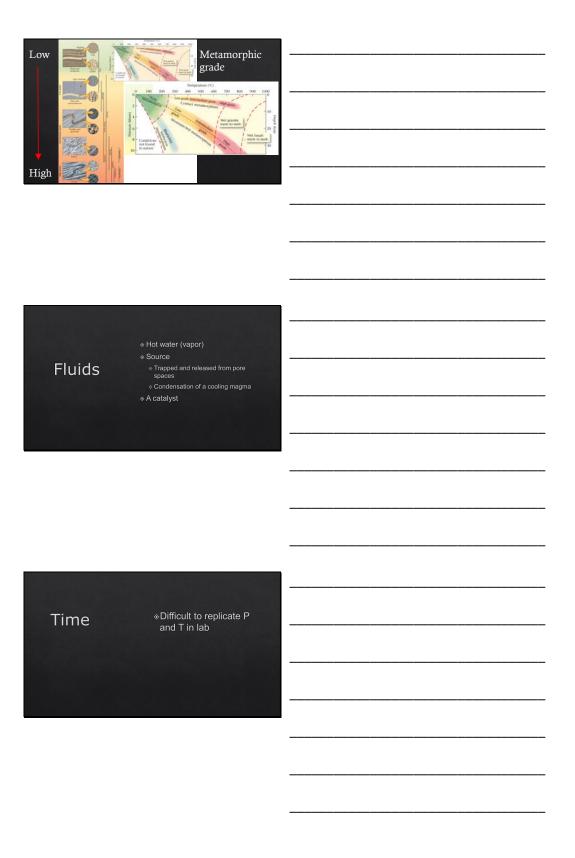
181	 		 	
N. Carlotte				
_				
9	 	 	 	
Depth Gard				





⋄Lithostatic pressure
 ⋄Pressure Gradient
 Pressure
 ⋄Minerals formed at great depths vs. shallow depths

Differential Stress Stress Alignment of crystals	Stress Vs. Strain	CHUCK NORRIS Bush Bush	
		♦ Compressive stress♦ Shear stress	
◆ Minerals crystallize out	Foliation	 parallel to the direction of differential stress perpendicular to the compressional 	



Metamorphic Slaty Cleavage Textures Schistose Gneissic

Flat parallel fracture planes
 NOT parallel to the original bedding.

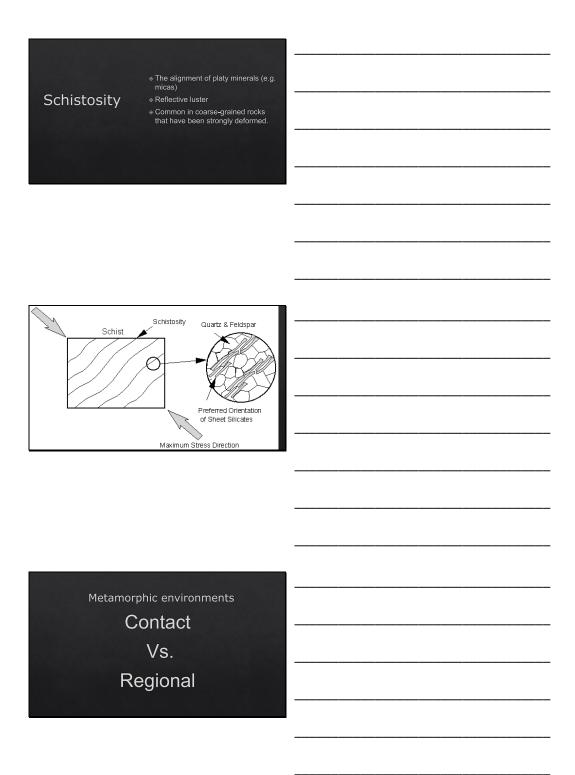
 Occurs often in finegrained rocks

Original Bedding Planes

Preferred Orientation of Sheet Silicates

Maximum Stress Direction

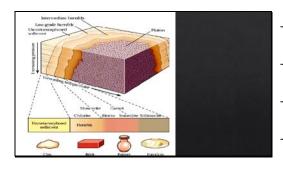
Slaty Cleavage



Contact metamorphism

Controlling factors

- ♦High temperature
- ♦Low pressure



Regional Metamorphism

- Variable temperatures and pressures
- ♦Foliated

