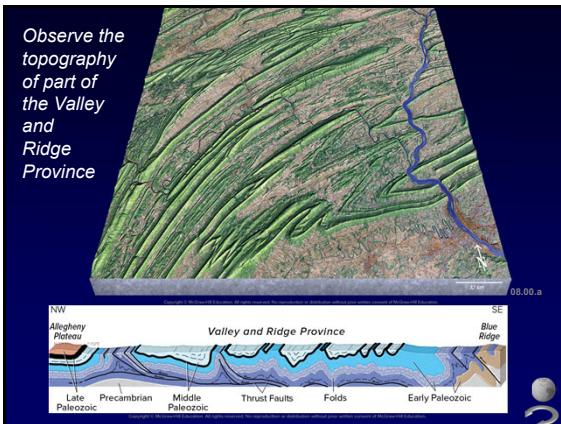
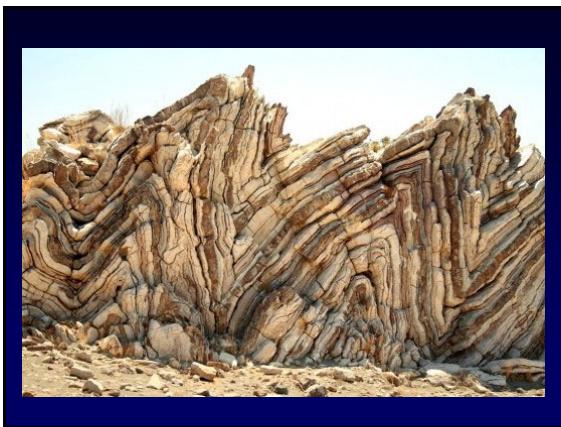
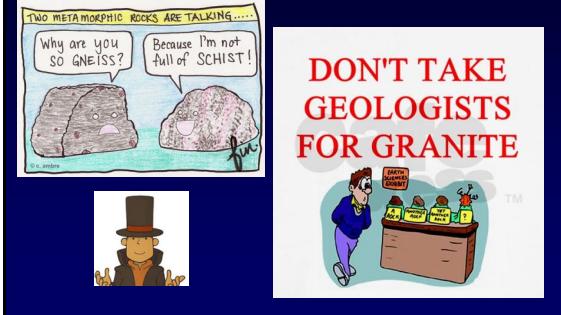
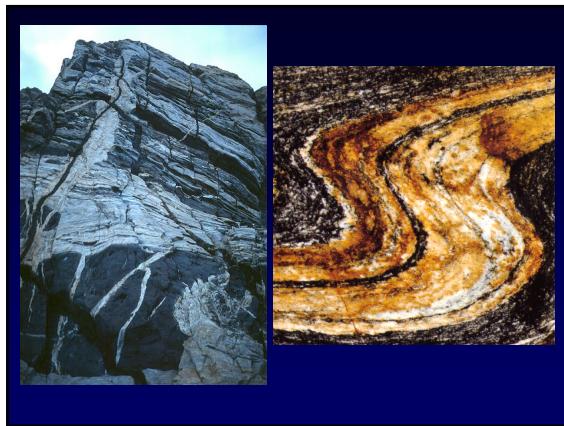


**Deformation and Metamorphism
Chap 8**





Force and Stress

Force is push or pull, expressed as amount of acceleration experienced by a mass

What happens if same amount of force is applied to two wooden pillars?

Stress = force per area

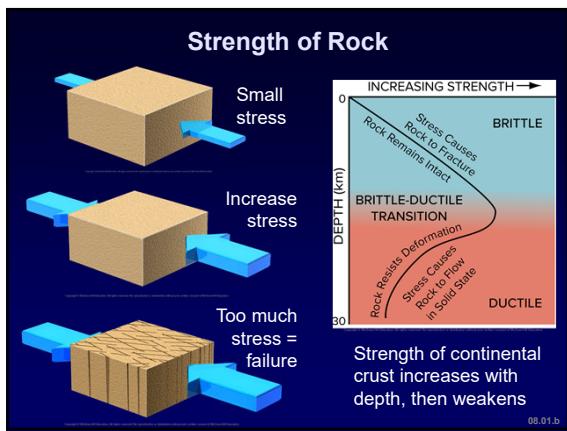
08.01.a

Different Kinds of Stress

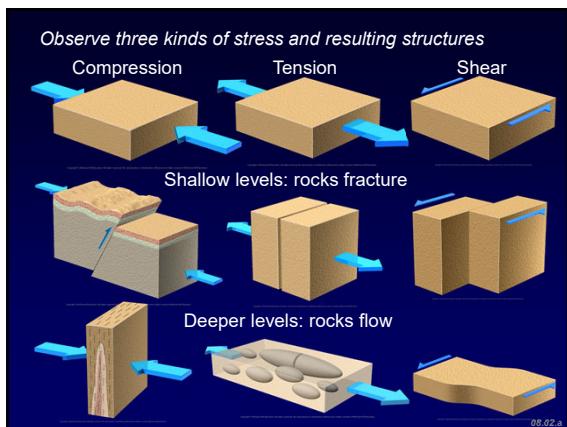
Confining pressure:
same amount of
stress from all
directions

Differential stress:
different amounts of
stresses from different
directions

08.01.b







Change in Deformation as Temperature and Pressure Increase with Depth



At shallow depths and low temperatures, most rocks are brittle and break

At greater depths, temperature and pressure are higher and rocks flow as weak solids

08.02.b

Change in Mineral Response as T and P Increase with Depth

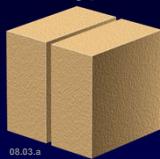


At shallow depth and low temperatures, minerals may be unaffected

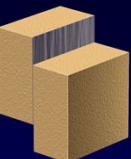
Deeper and at higher temperatures, minerals may recrystallize or new minerals may grow

Types of Fractures

Joint:
crack
where
rock
pulled
apart



08.03.a



Fault: rocks have slipped past one another



