

The Rockin' World of Geology (Part 2)

1997 Cerebellum Corporation • 800-VCR-REVU

I. Metamorphism

A. Causes of Metamorphism

1. heat
2. pressure
3. fluid

B. Types of Metamorphism

1. contact metamorphism
2. regional metamorphism
3. foliation
 - a. slaty cleavage
 - b. schistosity
 - c. gneissosity
 - d. hornfels

II. Faults and Mountain Building or The Crash and Crunch Factors

A. Stress and Strain

1. folds
 - a. anticlines
 - b. synclines
2. anatomy of a fold
 - a. strike
 - b. dip
 - c. axial plane
 - d. axis
3. plunging and nonplunging folds
4. eroded folds

B. Fractures

1. joints
2. faults
 - a. fault anatomy
 - i. fault plane
 - ii. footwall block
 - iii. hanging wall block
 - iv. strike
 - v. dip
 - b. types of faults
 - i. dip-slip
 - ii. normal
 - iii. reverse
 - iv. thrust
 - v. strike-slip
 - vi. oblique-slip
 - c. orogeny

III. The Earth's Interior and Plate Tectonics

A. Seismology and the

- Earth's Interior
1. earthquakes
 2. elastic rebound theory
 3. focus
 4. epicenter
 5. seismic waves
 - a. body waves
 - i. primary waves
 - ii. secondary waves
 - b. surface waves
 - i. Rayleigh waves
 - ii. Love waves
 6. Richter Magnitude Scale
 7. Modified Mercalli Scale
 8. the Earth's interior
 - a. inner core
 - b. mantle
 - i. lower mantle
 - ii. upper mantle
 - c. asthenosphere
 - d. Mohorovičić discontinuity

B. Plate Tectonics

1. The Theory of Continental Drift
2. Pangea
3. sea-floor spreading
4. plate boundaries
 - a. divergent boundaries
 - b. convergent boundaries
 - c. transform boundaries

IV. Earth Surface Processes

A. River Systems

1. the hydrologic cycle
2. runoff
 - a. velocity
 - b. gradient
 - c. discharge
3. competence
4. stream sediments
 - a. dissolved load
 - b. suspended load
 - c. bed load
 - d. bars
 - e. braided streams
5. deltas
 - a. bottomset beds

- b. foreset beds
- c. topset beds
6. alluvial fans
7. meandering streams
8. oxbow lakes
9. drainage basins
10. drainage systems
 - a. dendritic
 - b. rectangular
 - c. trellis
 - d. radial
11. headward erosion
12. stream piracy
13. superposition
14. downcutting
15. lateral erosion
16. stream terraces
- B. Shoreline Systems
 1. shorelines
 2. waves
 - a. crest
 - b. trough
 - c. height
 - d. wavelength
 - e. swells
 - f. breakers
 - g. swash
 - h. backwash
 3. wave refraction
 4. longshore currents
 5. beaches
 6. sand bars
- C. Glaciers
 1. valley glaciers
 2. continental glaciers
 3. ice caps
 4. glacial movement
 - a. advancing
 - b. retreating
 - c. stationary
 5. glacial erosion
 - a. u-shaped valleys
 - b. striations
 - c. cirques
 - d. horns
 - e. aretes
 - f. hanging valleys

Chart of Eras And Periods Of The Phanerozoic Eon:

<u>Era</u>	<u>Period</u>	<u>Millions of yrs ago</u>
Cenozoic	Quaternary	1.6-present
	Tertiary	66
Mesozoic	Cretaceous	144
	Jurassic	208
	Triassic	245
Paleozoic	Permian	286
	Carboniferous	
	(Pennsylvanian)	320
	(Mississippian)	360
	Devonian	408
	Silurian	438
	Ordovician	505
Cambrian	570	
Precambrian		570-4,600

Mohs Hardness Scale:

<u>Hardness</u>	<u>Mineral</u>
10	Diamond
9	Corundum
8	Topaz
7	Quartz
6	Orthoclase
5	Apatite
4	Fluorite
3	Calcite
2	Gypsum
1	Talc

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