

Exploring Plate Tectonics

Dr. Leslie R. Sautter

Project Oceanica, Dept. of Geology and Environmental Geosciences, College of Charleston

[T-Teacher, S-Student, O-Overhead, F-Figure]

UNIT I - Evidence for Plates

- 1) CONTINENTAL DRIFT HYPOTHESIS - Precursor to Plate Tectonics
 - A) Pangaea Revisited [T] [S] [O]
- 2) DEFINING THE PLATE BOUNDARIES
 - A) Introduction to the Seafloor [T] [S] [O]
 - B) Quakes and Plates [T] [S] [O]
- 3) LITHOSPHERIC PLATES
 - A) Why is there Lithosphere? [T] [S] [O]
 - B) Puzzling Plates - Part I [T] [S] [O]
 - C) Puzzling Plates - Part II (included with 3-D Plate Tectonics Puzzle)

UNIT II - Evidence for Plate Motion

- 4) DIVERGENT and TRANSFORM PLATE BOUNDARIES
 - A) Investigating Seafloor Spreading [T] [S]
 - B) Fracture Zones and Transform Boundaries [T] [S]
 - 5) INTRA-PLATE VOLCANISM
 - A) Hot Spots! [T] [S]
 - 6) CONVERGENT PLATE BOUNDARIES
 - A) Ring of Fire and Quakes (with PowerPoint) [T] [F]
 - B) The Benioff Box [T] [S] [F]
 - C) Play-Doh Plates [T] [S]
 - ❖ Closing of an Ocean (demonstration)
 - 7) DRIVING MECHANISM
 - ❖ Thermal Convection Hypothesis (demonstration)
 - 8) ADDITIONAL RESOURCES
 - ❖ Chapter I, *Of Sand and Sea*
-