

## STEP Notes for Plate Tectonics

### Vocabulary

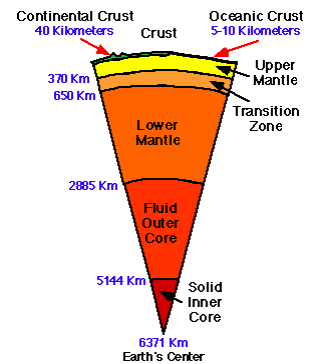
- **Plates:** the field surrounded by a boundary; like a football field is surrounded by boundaries
- **Plate Boundaries:** similar to the out-of-bounds lines around a football field, these are where one plate ends and another begins.
- **Convergent** → ←
- **Divergent:** memory aid: “diving” in the ocean ← →
- **Subduction:** going under another plate, like a submarine goes under the water
- **Lithosphere:** crust and upper mantle
- **Transform fault or boundary** ↔
- **Rift Valley**
- **Island Arcs**
- **Convection**

“We are the plate boundaries” song, sung to the Adams Family  
*Da-da-da-dah (snap snap) [repeat]*  
*Da-da-da-dah Da-da-da-dah Da-da-da-dah (snap snap)*  
*Convergent is colliding*  
*Divergent is dividing*  
*Transforming is sliding*  
*We are the plate boundaries*

The Earth can be separated into layers based on composition or on physical/mechanical properties.

### Composition:

- Crust: the rocks have more silica in them (more “felsic”—containing more feldspar and silica)— including lighter elements such as silicon, aluminum, oxygen, sodium, and potassium
- Mantle: the rocks are denser, more mafic composition (magnesium and iron)
- Core: the rocks are the densest, and are mostly iron



### Physical/ Mechanical:

- Lithosphere: the part that moves (the plates, which includes the crust and the uppermost layer of mantle)
- Asthenosphere: solid material that flows slowly beneath the solid lithosphere (cm/yr)—this is a layer within the mantle
  - Note: The transition between the lithosphere and the asthenosphere is gradual

