

October 23, 2019  
MSE 2101 topics

- The Moon – hands-on evidence!
  - fundamentally different composition
  - no volatile elements
- The giant impact model
- Life!
- Still remember the 6-prong test?
- Species: classical and modern definition
- Naming species: *Genus* + *species* (generic + specific)  
i.e. *Homo sapiens*, *E. coli*, *Equus caballus*, *Equus asinus*
- Theory of Evolution – the beginnings
  - Anaximander: water is the source of everything!
  - Heraclitus: *Panta Rhei* (everything changes with time)
  - Empedocles: poorly adapted creatures would perish
  - Aristotle: species fixed and unchanging
  - Lamarck: fossils vs. living organisms
    - “Inheritance of acquired characteristics”
- Darwin 1859: natural selection
  - evidence: finches at Galapagos islands, armadillo fossils
  - artificial selection: breeding of plants and animals
  - timescales
  - molecular basis