1. Pangaea
   1. Spilt 250 million years ago
   2. Trap volcanics of SA and Africa 250 MY,
      1. Thought to be area of initial split
      2. Largest volcanic event known
2. Dino extinction
   1. 65 may
   2. Asteroid impact
      1. Evidence- Iridium layer
         1. Iridium found in asteroids, rare on Earth
         2. Dinos below layer, none above
         3. Impact Eastern Mexico, Yucatan area
3. Scab Lands of Washington State
   1. Huge baron area, of canyons and waterfalls, BUT NO rivers
   2. Old waterfall, 3X bigger than Niagara
4. Cause?
   1. Glacial dams in Montana, 200’ deep, broke
   2. Bigger than GREAT LAKES
   3. 39 floods AT LEASt
      1. layers of seds in canyons
5. Early Atmosphere
   1. TOXIC
   2. First there was oxygen in the ocean.
      1. Evidence, iron oxides found in ocean sediments
   3. Water from early comets?
   4. Stromatolites
      1. Small bacterial colonies
      2. Producers
      3. 🡪 to early oxygen atmosphere
6. Mid Ocean Ridge
   1. 1966, south of Iceland
   2. the island of Surtsey is born
   3. grew out of the MOR
   4. Now a National Preserve
7. Lava types
   1. Pahoe-hoe
      1. Very fluid
      2. Hot
      3. Low silica
      4. Cools ropey
   2. A-a
      1. Not fluid
      2. Cooler
      3. High silica
      4. Sharp, ragged edges