AIM: How do species become extinct?

1. Extinction: the complete disappearance of a species from the Earth

It is estimated that 99.9% of all species that ever existed have become extinct

2. Long-Term Patterns Influenced by:

- a. continental drift
 led to geographic and
 then reproductive isolation
- b. gradual climate change
- c. rapid climate change resulting from catastrophic events

3. Rate of Extinction

a. Background Extinction -

standard low rate of extinction BEFORE humans became a contributor

prior to human influences:

1-5 species per year

(scientists think the rate has increased 1000x or more)

b. Mass Extinction -

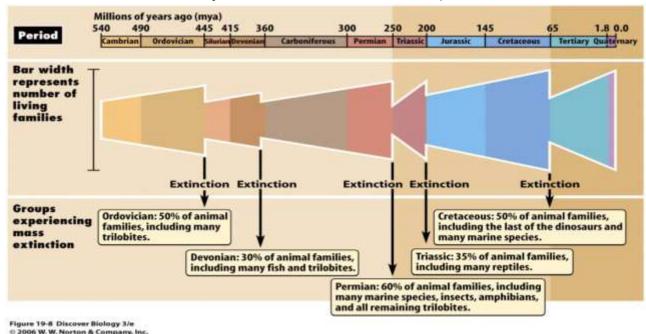
- widespread (often global)
- 25-70% of all species die off as a result of the event
- 5 mass extinction events
 (last one: 65 mya at end of Cretaceous Period [dinosaurs])

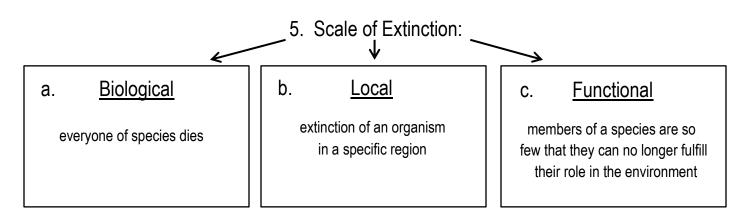


4. Adaptive Radiation:

In the time period following a mass extinction, new species evolve to fill new niches or ones left vacant. (Ex: mammals replace niches left behind after dinosaur extinction)

The 5 Major Mass Extinctions and Adaptive Radiations





- 6. Causes of Extinction: (causes of a loss in biodiversity)
 - a. Habitat Destruction / Fragmentation can be anthropogenic or by natural causes
 - b. Invasive Species outcompete native species
 - c. Pollution chemical pesticides, heavy metals
 - d. Population of People
 - e. Overharvesting

