v. Dinosaurs (Tr-K) (chap. 16-17)

a) Evolved from thecodonts

b) Terrestrial only; all egg layers

c) ~Warm-blooded (~endothermic or gigantothermic) (have highly vascularized bones & bone oxygen isotope chemistry like mammals)

d) Rapid growth; adults range from rabbit-sized to very large

e) Much time spent raising young

i) Nesting behavior (usually 6-12 eggs)

ii) Eggshell fragments

f) Traditional vs. current view of dinosaurs

g) Dinosaur classification

i) Ornithischians

a) Hip & Teeth

b) <u>All</u> herbivores

c) <u>Exs</u>: stegosaurs, ceratopsians, hadrosaurs, ankylosaurs

ii) Saurischians

a) Hip & Teeth

b) <u>Exs</u>: theropods (carnivores)

& sauropods (herbivores)

h) <u>Highest</u> dinosaur <u>diversity</u> was in the Jurassic

vi. Marine reptiles

a) Plesiosaurs (Tr-K)

b) Mosasaurs (K)

c) Ichthyosaurs (Tr-K)

d) Sea turtles

c. 1st <u>modern</u> bony fish (Tr-Q)

d. <u>Modern</u> amphibians (Tr-Q)
i. 1st frogs, toads, salamanders

e. 1st mammals (Tr-Q)

i. Multituberculates

a) Most diverse & numerous group of Mesozoic mammals
b) Omnivorous (but mostly herbivorous)
c) Some species were sexually dimorphic

f. 1st birds
i. 1st <u>possibly</u> Tr in age (*Protoavis* of Texas)

ii. 1st definite birds are J (*Archaeopteryx* of Germany)

iii. Lots of K fossil birds (especially in China)

iv. Bird features

a) Wings

b) Tail

c) Teeth

d) Feet

e) Warm-blooded

f) Diet

g) Bones

v. Origin of birds (evolved from theropod dinosaurs)
(birds & reptiles have >150 shared characters)

vi. Origin of bird flight
a) Feathers (homologous with scales)

b) Arboreal hypothesis

c) Insect net hypothesis

d) Running & jumping hypothesis