Class Osteichthyes

_____ Animalia

_____ Chordata

_____ Vertebrata

_____ Osteichthyes

General Characteristics

- The _____ (by species) class of _____
  - Over _____ known species
- _____ skeleton of _____
- Dermal _____ provide protection, but are very _____ from chondrichthyes scales
  - Epidermal _____ secretion=reduce _____
- _____ symmetry
  - _____ adapted for _____ environment
- Aquatic _____
  - Paired _____
    - _____ covered by _____ (allows fish to breathe without swimming)
- _____ – salt, _____, warm, _____ – anywhere!!
- _____ bladder –
  - Creates _____ buoyancy
  - Can also act as _____ chamber for _____
- Mouth/jaw well _____
  - Fine _____

Scales

- 3 types of _____
  - _____
    - Very tough, _____ coating of protective _____
    - _____ shape, _____
    - Uncommon in _____ fish (found on _____, gar)

- _____
  - Terminate in tiny _____ along _____ edge
  - Most _____ type of _____ in bony fish
- _____
  - Smooth
  - Overlap for _____
  - Grow in concentric _____ each winter – "_____ _____"

Skeleton

- Endoskeleton – _____ & _____
  - _____ – pertaining to the central _____ of the body – skull, _____, ribs, _____, caudal vertebrae
  - _____ – parts of the _____ adjacent to the _____ skeleton – _____ girdle, _____ girdle, fin rays

Muscular

- Segmented muscles (_____) – overlapping, segmented _____ in a zig-zag shape, used for _____ and undulating _____ movement

Digestive

- _____ – mouth, pharynx, _____, stomach, pyloric _____, pyloric caeca, _____, anus
  - Also have _____ & gall bladder to aid in _____

Circulatory

- _____ – _____ chambered heart
  - Pericardial _____ with an _____ & a _____
  - _____ lead _____ from heart to gills – _____ return blood to the heart
  - _____ close the system between _____ & _____ at the cells

Respiratory

- Aquatic – _____
  - _____ covered by muscular plate – "_____"
  - Gill _____ – minute capillaries for absorption of _____ & excretion of _____
  - Gill _____ – provides cartilaginous _____

- Gill _____ – protect against _____ substance entering _____ (cleaning & filtering water)

Excretory

- Two _____ – strains _____ nitrogenous waste
  - _____ – Fluid tube leading to urinary bladder

Nervous system/sensory

- _____ well developed – division of _____
- Nerve _____ branches to lateral _____ _____
  - _____ hemisphere – capable of "_____"
  - _____ lobes – receive & process signals from _____
    - _____ – olfactory sacs pick up dissolved _____ (_____ smelling)
  - Auditory – _____ ear
    - _____ – _____ growth for equilibrium & _____
  - _____ line – picks up low _____ vibrations – _____ touch/hearing
  - _____ lobes – _____ area, process _____
    - _____ – well developed, binocular – allow _____ to be _____
    - See in _____; some can see _____ light
  - _____ _____ – fish have _____ preferences, can distinguish what's "good"

Reproduction

- _____ fertilization (_____) – most species
  - Brook trout – _____ eggs
  - _____ _____ – 5,000,000
- A few species are _____