

# Intro. To Environmental Science 120

## EXAM REVIEW

### UNIT 1: An Overview of Environmental Science

- 3 viewpoints (anthropocentric, biocentric, ecocentric)
- video...The Lorax (themes, terms and issues)
- see Unit 1 key terms handout
- article... 'What's The Fuss About Fracking?'
- ecological footprints
- ethical consumerism
- populations
- factors affecting population growth
- birth/death/immigration/emigration
- census (sample/true)
- population density (calculation)
- mark-return-recapture (calculation)
- video...Easter Island
- population growth (biotic potential, carrying capacity)
- exponential/logistic (graphs)
- exponential growth (calculation)
- limiting factors (light, space, water, nutrients)
- biological evolution
- adaptations...
  - \* behavioral (ie/ migration)
  - \* physiological (ie/ ability to poison prey)
  - \* structural (ie/ coloration)
- Darwin (natural selection, Darwin's finches beaks)
- processes that lead to evolution ...
  - \* changes in environment (speciation)
  - \* genetic variation (genes/mutations)

### USE UNIT 1 REVIEW/CROSSWORD AND CHECK/CORRECT UNIT 1 TEST

### UNIT 2: Sustainable Development

- levels of organization...
  - \* Biologist (cell/tissue/organ/11 organ systems)
  - \* Ecologist (organism/species/population/community/ecosystem/biome/biosphere)
- biotic/abiotic factors
- biomes (aquatic/forest/desset/tundra/grassland)
- autotrophs/producers
- photosynthesis (balanced chemical equation)
- heterotrophs/consumers...
  - \* herbivore (cow)
  - \* carnivore (snake)
  - \* omnivore (human)
  - \* detrivore (earthworm)
  - \* decomposer (fungus)
  - \* scavenger (vulture)

- food chains and food webs
- trophic levels
- lab...owl pellet dissection
- ecological pyramids...
  - \* energy
  - \* biomass
  - \* numbers
- habitat/niche
- species interactions...
  - \* competition (direct/indirect) *ex: fox and coyote*
  - \* predation (predator/prey) *ex: eagle and rabbit*
  - \* parasitism (parasite/host) *ex: tick and dog*
  - \* mutualism *ex: human and intestinal bacteria*
  - \* commensalism *ex: shark and remora*
- nutrients (essential elements)
- classification...
  - \* non-mineral/mineral, macro/micro, primary/secondary macronutrients
- nutrient cycles...
  - \* water/hydrologic (know in detail)
  - \* carbon
  - \* nitrogen
  - \* phosphorous
- problems that affect natural cycles
- species at risk...
  - \* extinct/extirpated/endangered/threatened/special concern/ data deficient/not at risk

## **USE UNIT 2 REVIEW/CROSSWORD AND CHECK/CORRECT UNIT 2 TEST**

### **UNIT 3: Miramichi Watershed, It's Ecology and Atlantic Salmon**

- life cycle of an Atlantic Salmon (see handout and video)
- predators to the Atlantic Salmon (names of species)
- watershed terminology (see handout)
- 4 essential items for a healthy fish stock (see handout)
- salmon scale identification (see lab assignment)
- 4 types of current found in a river...
  - \* Eddy/ Pool/Riffle/Undercut
- external anatomy of a salmon (see lab assignment)