I. Female Reproductive System
   A. Ovaries
      1. contain oocytes
         a. primary oocytes
         b. arrested in prophase I of meiosis
      2. ovulation
         a. hormonal fluctuations
         b. 400-480/lifetime (human)
         c. ovum
         d. phase of estrous cycle
   B. Oviducts
      1. tube lined with muscle
      2. peristalsis
      3. fertilization
   C. Uterus
      1. inner layer of stratified epithelium
         - endometrium
      2. muscular walls (myometrium)
      3. cervix
      4. horns

II. Embryonic Development (human)
   A. Cleavage
      1. first division at about 30 hours
      2. morula =
      3. blastocyst
         a. hollow ball of several hundred cells
         b. implantation
         c. trophoblast (outer layer of cells)
            - gives rise to fetal membranes
   B. Membranes
      1. form after implantation
      2. trophoblastic
3. amnion
4. chorion

C. Gastrulation
   1. endoderm (lining of gut)
   2. mesoderm (internal structures)
   3. ectoderm (nerves and skin)

I. Ecology
   A. How organisms react to their environment

   B. Varies by location
      1. community =
      2. habitat =
      3. ecosystem =

II. Energy Flow
   A. Starts with the sun
      1. photosynthesis
      2. light energy to chemical energy
      3. energy stored in organic molecules

   B. Producers
      1. photosynthesis
      2. lowest trophic level
      3. produce “usable” energy sources

   C. Consumers
      1. herbivores
         - level 2
         - primary consumers

      2. carnivores
         - level 3
         - secondary consumers

         - sometimes level 4 (tertiary consumers)

      3. omnivores

      4. detritivores/decomposers
D. Limitations of food chains (food webs)

1. energy lost as heat (often 50%)

2. herbivore utilizes only 10% of energy stored in plant molecules

3. carnivore utilizes only 10% of energy stored in herbivore molecules

4. rarely over 4 trophic levels in an ecosystem