Reproduction

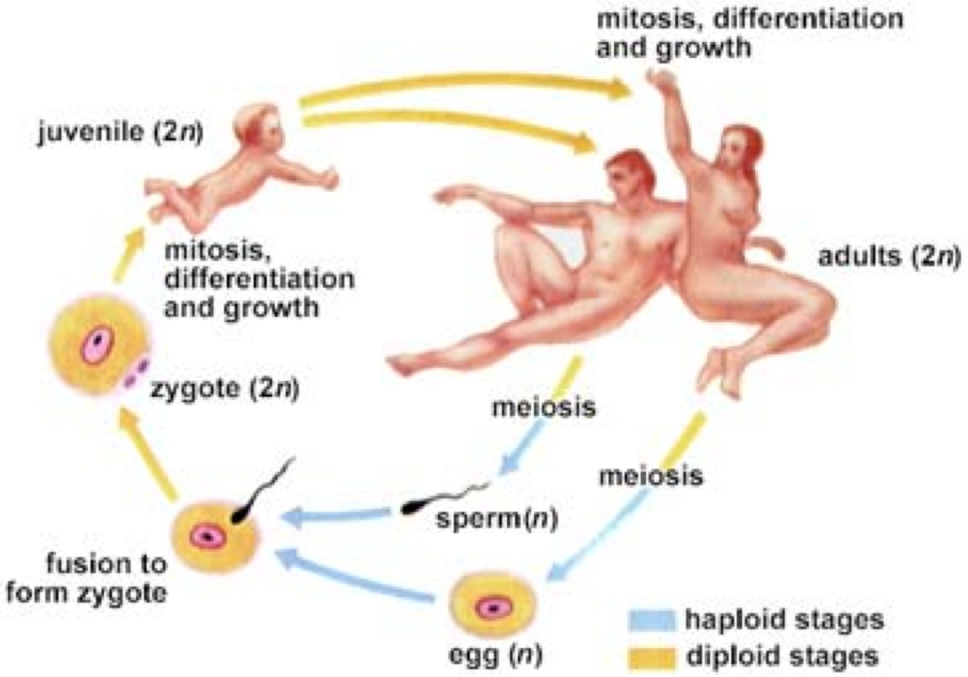
Sex is on the minds of most people, especially those who shouldn't be having it.
-William Glasser

A hen is only an egg's way of making another egg.
–Samuel Butler

I. **Humans reproduce sexually**

A. Offspring carry a genetic complement from both the mother and the father

B. Results in genetic variability which is advantageous to the species



Ted-Ed Evolution of Animal Genitalia

II. **Functions of the reproductive system:**

A. Produce cells capable of combining their genetic information to form a new individual

B. Organs for bringing the cells close together so that they can fuse

C. Provide a place for the new individual to develop into a viable human being

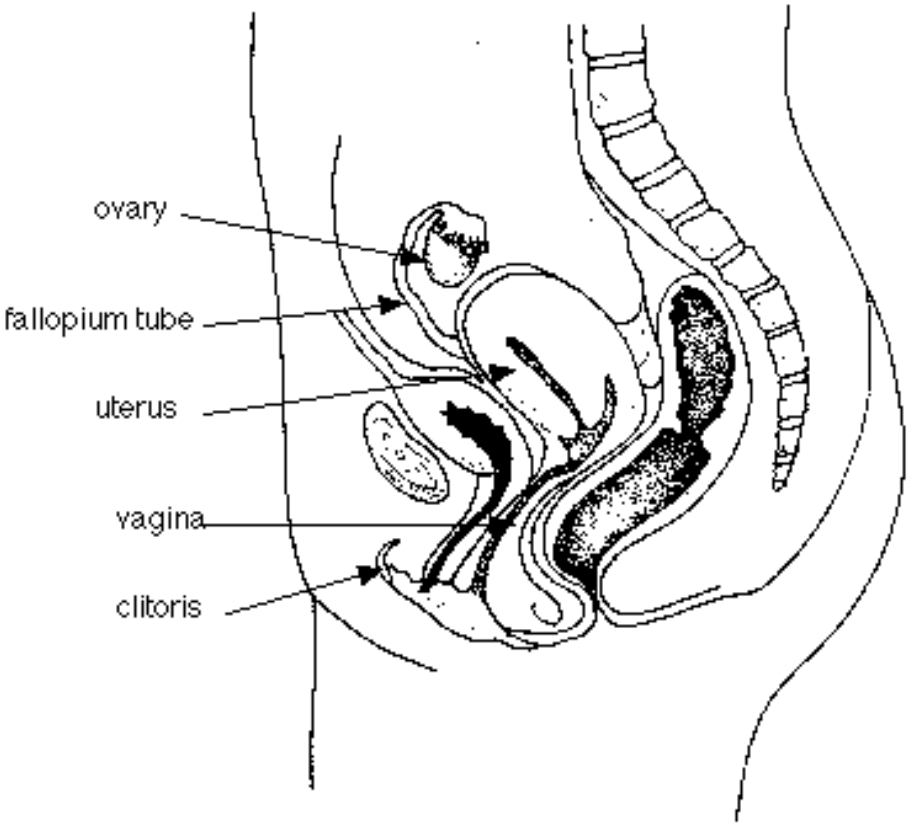
D. Hormones required for coordination

Female Reproductive System

I. Overview

A. Main functions:

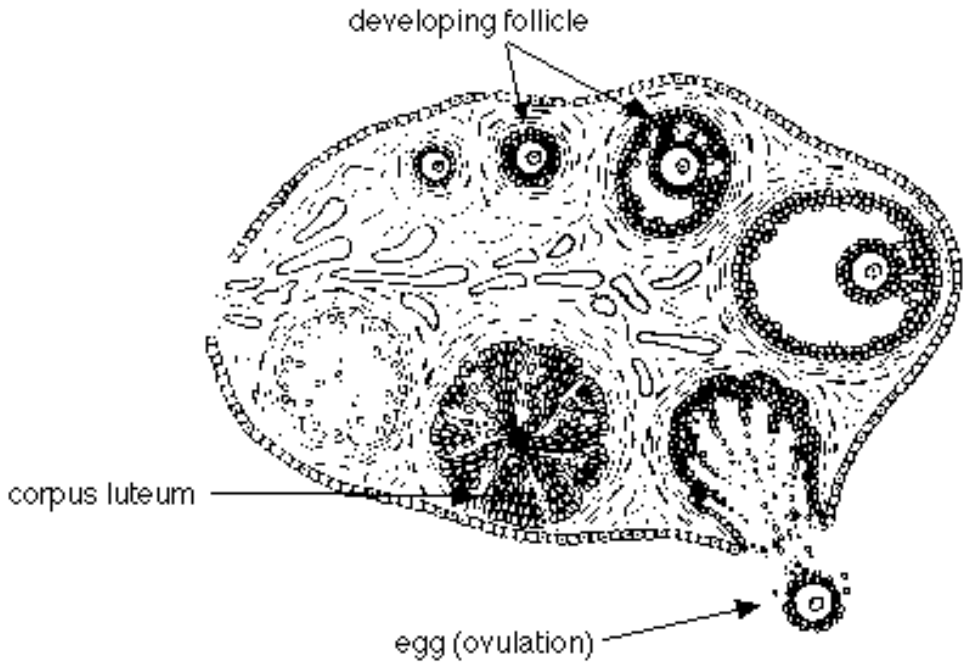
1. Produce a haploid female gamete (EGG/OVUM)
2. Provide a place to receive the male gamete
3. Provide a place for fertilization
4. Provide a place for growth of the offspring



A. Ovaries

1. Two egg-shaped on each side of uterus in the pelvic abdominal cavity
   a. Each measures 3 cm by 1 cm
   b. Held in place by ligaments to oviduct and uterus
2. Produce eggs from FOLLICLES
   a. Follicles contain OOCYTE and follicle cells
      i. Born with 2 million follicles
      ii. Reduced to 350,000 – 400,000 at puberty
      iii. About 400 eggs mature during the reproductive years
   b. OOGENESIS is the process of forming an egg
      i. Cell that will form the egg undergoes meiosis to form two haploid (1n) cells
      ii. One of these develops into an egg and the other into a polar body
      iii. Each undergo a second division
      iv. Polar body forms two polar bodies while the egg forms the egg and another polar body

c. **OVULATION** occurs when an **egg** bursts from an **ovary**

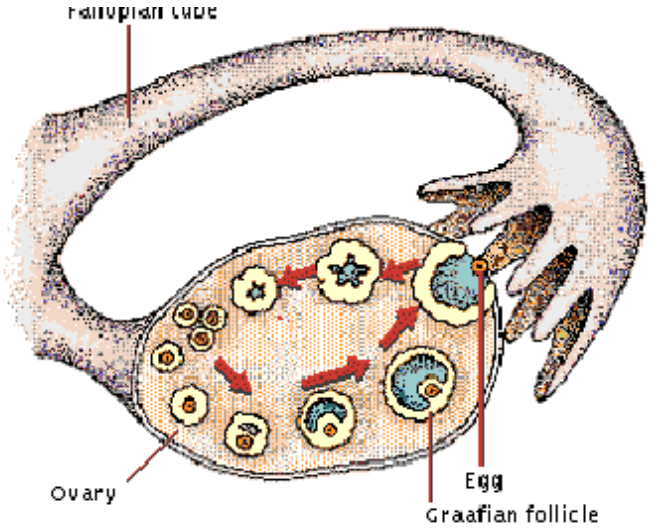


Note: ***This figure represents the sequences in 1 complete cycle (28 days), all these parts are not present at any one time***

3. Produces **sex** hormones
   a. **Estrogen** (from **follicles**)
   b. **Progesterone** (from **corpus luteum**)

B. Fallopian tubes/Oviducts

1. Connected to uterus and lie close to ovaries
2. Lined with cilia and surrounded by circular muscles
3. Sweep up eggs from ovary using cilia lining and wafting fimbria at end of oviducts
4. Functions:
   a. Site of FERTILIZATION
      i. Sperm meets and fertilize an ovum
      ii. Ectopic pregnancy is any implantation outside central body of uterus
      iii. Tubular pregnancies occur when embryo implants in the oviduct
   b. Propels the egg towards the uterus



C. Fimbria

1. Fingerlike projections on the tubes at the ovary end that helps catch the egg when it is release

D. Uterus/Womb

1. Thick-walled muscular, hollow, pear-shaped organ
2. Size and shape of an inverted, flattened pear
3. Lies above and slants forward over the bladder
4. Can stretch from 5 cm wide to over 30 cm with a growing baby
5. Lined with a layer called the ENDOMETRIUM
    a. Endometrium is composed of:
        i. Connective tissue
        ii. Highly vascularized
        iii. Glands that lubricate the uterus
    b. Endometrium has a basal layer and a functional layer that varies with the uterine cycle
    c. Forms the placenta during pregnancy

6. Myometrium is a muscular layer that is used to expel the fetus when birth occurs
7. A HYSTERECTOMY is the surgical removal of the uterus
8. Uterus is the site of nurturing the developing embryo

E. **Cervix**

1. Located at back of vaginal canal
2. Contains the entrance to the uterus
3. Functions:
   a. Provides a path for sperm to swim through
   b. Produces mucin strands to facilitate sperm movement
   c. Holds the fetus in the uterus
   d. During pregnancy, is closed off by a mucus plug