

STUDY GUIDE FOR CHAPTER 16
(see also the chapter summary on pages 500-501, and
the handout on sexual homologies)

Haploid - having unpaired chromosomes, one of each kind.

Diploid - having paired chromosomes, two of each kind. Most body cells are diploid.

Gamete - a haploid reproductive cell or "germ cell". Female gametes are called **eggs** or **ova** (singular is **ovum**); male gametes are called **sperm**;

Gonad - a gamete-producing organ. A male gonad is a **testis** (plural, **testes**); female gonads are **ovaries**.

Meiosis - a type of cell division that produces haploid cells (e.g., gametes) from diploid precursors.

Spermatogenesis - meiosis in males, followed by a single mitosis, resulting in eight equal sperm cells.

Oogenesis - asymmetrical meiosis in females, producing one large ovum and 2-3 tiny polar bodies.

Fertilization - joining of egg and sperm cells to make a diploid cell (**zygote**).

Zygote - a fertilized egg, the first diploid cell from which all others are derived.

Embryo - any stage of development prior to birth, but especially before the organs have fully formed.

Fetus - a late embryo, after the organs have formed and are each recognizable.

Amnion - fluid-filled sac surrounding the embryo.

Puberty - time of a person's life (typically around age 12-13, but variable) when hair begins to grow upon the pubis (front of the pelvis) and when other sex characteristics appear (e.g., beards in males, enlarged breasts in females).

Archinephric (Wolffian) duct - duct in the embryo which persists in males and carries sperm.

Seminal fluid (semen) - a fluid produced by the male reproductive system, containing sperm.

Testosterone - an androgenic (masculinizing) hormone produced by the testes (and, in much smaller amounts, by the ovaries and the brain).

Interstitial cells - testosterone-secreting cells between the seminiferous tubules in the testes.

Epididymis - coiled tube in males leading from the testes to the vas deferens, secreting much of the seminal fluid.

Vas deferens (ductus deferens) - the sperm duct in males, derived from the archinephric duct.

Cowper's (bulbourethral) glands - glands near the base of the penis that provide the propulsive force to eject the sperm from the male reproductive tract.

Seminal vesicles - paired glands in the male that dilute the seminal fluid.

Prostate gland - glandular organ in males that prevents urine and semen from entering the lower part of the urethra simultaneously.

Penis - the male intromissive organ, capable of inserting sperm into a vagina.

Estrogen - a feminizing hormone such as estradiol or estrone, produced by the ovaries.

FSH (Follicle-Stimulating Hormone) - pituitary hormone that stimulates growth of the gonads in both sexes, and growth of the uterine lining and secretion of estrogen in females.

LH (Lactogenic Hormone, prolactin) - pituitary hormone that stimulates ovulation.

LTH (LuteoTrophic Hormone) - pituitary hormone that stimulates the corpus luteum to secrete progesterone.

CONTINUED ON REVERSE SIDE

(Graafian) follicle - an egg, plus the nonreproductive, protective layers surrounding it.

Ovulation - release of an ovum by the rupture of a Graafian follicle.

Corpus luteum - yellow scar tissue in the ovary left over after ovulation; it secretes **progesterone**.

Progesterone - female hormone secreted by the corpus luteum that maintains the uterine lining.

Uterus, womb - the female organ that houses the developing fetus.

Endometrium - blood-rich, innermost epithelial layer of the uterus.

Myometrium - the thickest layer of the uterus, made of smooth muscle tissue.

Cervix - the neck-like portion of the uterus that protrudes into the vagina.

Uterine tubes (also called **Fallopian tubes or oviducts**) - tubes through which the egg passes on its way from the ovary to the uterus.

Vagina - hollow female organ into which sperm are deposited and through which babies pass during birth.

Vulva - the external genital organs of the female, collectively.

Labia majora - the large, outer lip-like folds guarding the female vulva.

Labia minora - the smaller, inner lip-like folds guarding the female vulva.

Clitoris - the female phallus, equivalent to the glans penis of the male.

Genitalia - reproductive organs, especially those externally visible.

Mammary glands - milk-producing glands, derived from modified sweat glands.

Menstrual cycle - a female reproductive cycle marked by bleeding (actually, the shedding of the endometrial lining) approximately once a month.

Menarche - the onset of menstrual cycles during puberty.

Menopause - the cessation of menstrual cycles, typically between age 45 and 55.

Implantation - attachment of the early embryo to the endometrial wall.

Pregnancy - condition in which one or more embryos is developing inside the uterus.

Placenta - highly vascular (blood-rich) organ by which an embryo is attached to (and nourished by) the uterine lining of its mother.