Chapter 22: The Reproductive System Tables

Comparison of Mitosis and Meiosis:

Event	Mitosis	Meiosis
DNA replication	Occurs during interphase before nuclear division occurs	Occurs during interphase before nuclear division occurs
Number of Divisions	One (PMAT)	Two (2x PMAT), no replication between divisions
Number of daughter cells and genetic composition	Two, each diploid (2N) and genetically identical to each other and parent cell	Four, each haploid (1N), genetically non-identical to parent cell
Importance	Growth, repair, development of multicellular adults from zygote	Production of gametes, reduces chromosomes # by1/2, variation

Summary of Female Reproductive Cycle:

	FSH	LH	Estrogen	Progesterone
Secreted by what organ or gland	Anterior pituitary gland	Anterior pituitary gland	Maturing ovarian follicle	Corpus luteum
Days of secretion	Days 0-14	Day 14	Days 1-14	Days 14-24
Target(s) of hormone	Ovarian follicles	Secondary (mature) ovarian follicle	Secondary sex organs (breasts, hair follicles in axillary and inguinal regions, adipose tissue in buttocks and thighs	Endometrium of uterus
Response	Maturation of ovarian follicle and ovum	Bursting of ovarian follicle, ovulation	Development at puberty, maintenance throughout life	Causes endometrium to thicken, become vascular and glandular, preparation for implantation

Male Reproductive Organ Summary:

Name of Organ	Structure	Function
Testes	**Solid ovoid structures held in scrotum, lobules of seminiferous tubules separated by interstitial cells**	**Production of sperm (seminiferous tubules/FSH) Secretion of testosterone (interstitial cells/LH)**
Epididymis	**Tightly coiled tubule superior to testes, leads to vas defrens**	**Storage of sperm**
Vas Defrens	**Muscular tube leading from epididymis into abdominal cavity**	**Movement of sperm**
Seminal Vesicle	**Sac-like structure attached to vas defrens**	**Addition of fructose (energy source) to sperm/semen**
Prostate Gland	**Sponge-like structure below bladder and surrounding urethra**	**Addition of milky alkaline fluid to semen for sperm motility**
Bulbourethral Gland	**Two pea-shaped structures below prostate**	**Addition of penis lubricant to sperm**
Urethra	**Tube leading from bladder/prostate to outside, held within penis**	**Transport of sperm and urine to outside**
Penis	**Male excitatory organ, vascular columns fill with blood causing erection**	**Is held in female vagina during intercourse for transfer of sperm**
Scrotum	**Pouch of skin and fat that holds testes**	**Hold testes at cooler temperatures to insure optimum sperm production**

Female Reproductive Organ Summary:

Name of Organ	Structure	Function
Ovaries	**Solid ovoid structures on posterior pelvic cavity, cortex of ovarian follicles**	**Production of secondary oocytes for fertilization, production of estrogen for development of secondary sex organs, production of progesterone to prepare endometrium for implantation**
Fallopian Tubes	**Tubes that pass medially from ovaries to uterus; lined with cilia, expanded ends (fimbriae) over ovary**	**Site of fertilization, transportation of fertilized egg to uterus**
Uterus	**Muscular (smooth) organ that houses developing embryo, fetus, 3 layers**	**Houses developing embryo/fetus**
Cervix	**Lower one-third of uterus**	**Pap smear location**
Vagina	**Passageway from cervix to outside of body**	**Birth canal, houses erect penis during intercourse**
Labia	**External reproductive organs**	**Protect underlying organs**
Clitoris	**Small projection at anterior end of labia, two columns of vascular tissue**	**Female excitatory organ**