

Endocrine System & Reproduction

The Endocrine System

- Functions of the Endocrine System
 - Chemical Control System – Chemical response along with nervous response.
- Endocrine glands – produce hormones
 - Hormones speed up or slow down cellular processes.
 - Endocrine glands have no ducts, but just release chemicals into the blood.
 - Endocrine glands regulate the internal environment and cause cell and body responses to the environment

Glands of the Endocrine system.

• Pineal gland –

• Pituitary gland –

• Thymus-

• Thyroid –

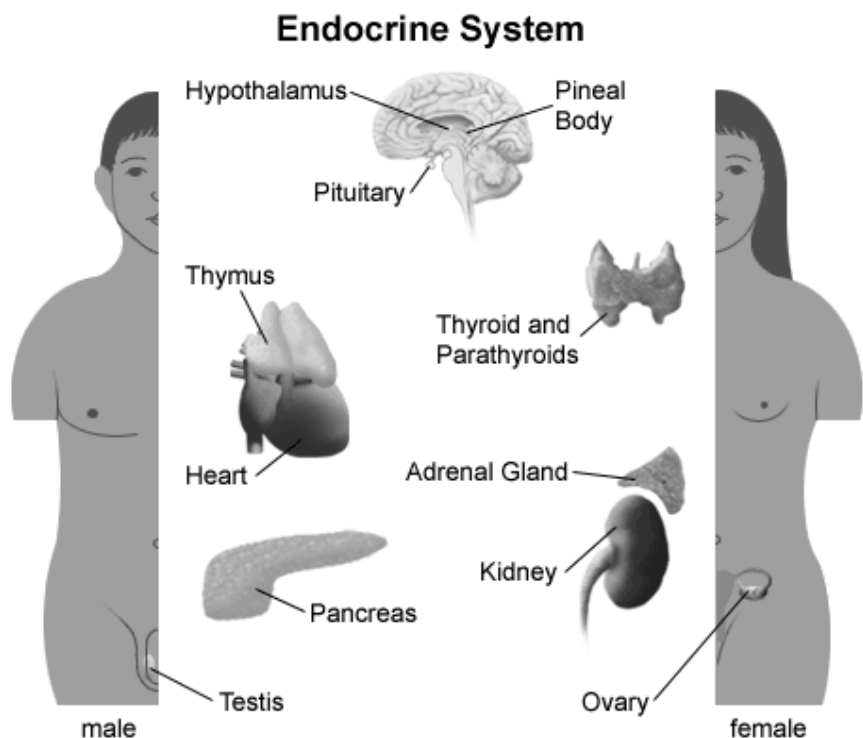
• Parathyroid-

• Adrenal –

• Pancreas-

• Ovaries-

• Testes-



Endocrine System a negative feedback system

- The endocrine system responds to the amount of hormone in the blood.
- When there is not enough of a chemical in the blood the endocrine system responds and releases the chemical until there is more than enough, and that signal the gland to stop producing the hormone.

Sexual reproduction

- **In almost all animals sexual reproduction involves**
- **Gonads – the sex cell producing organs**
 - Females have ovaries that produce eggs
 - Males have testes that produce sperm
- Fertilization is when the sperm unites with the egg to form a zygote

Male reproductive system

• **Testes** –

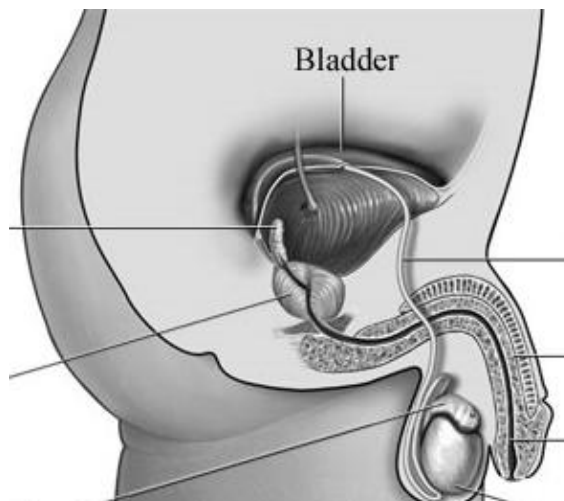
• **Scrotum** –

• **Vas deferens** –

• **Prostate gland** –

• **Urethra** –

• **Penis** –



*Know the parts and functions of the male reproductive system.**

Female reproductive system

• **Ovaries** –

• **Fallopian tubes (oviducts)** –

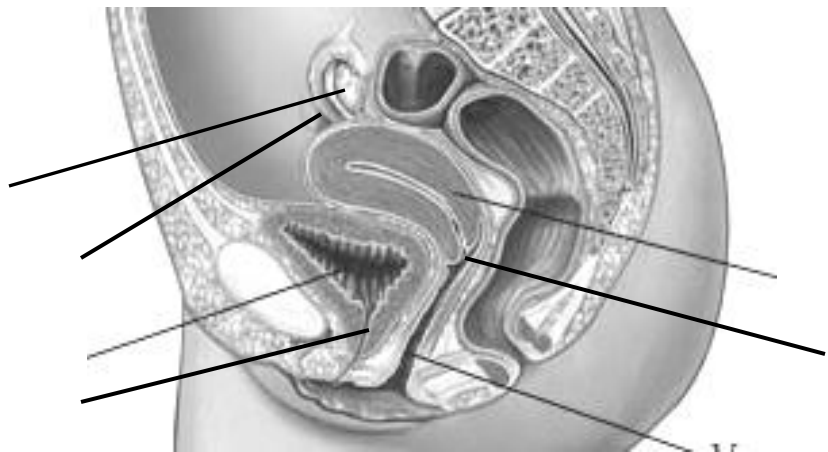
• **Uterus** –

• **Cervix** –

• **Vagina** –

• **Urethra** –

• **Endometrium** –



*Know the parts and functions of the female reproductive system.**

The Human menstrual cycle

- **The monthly cycle that the uterus goes through to prepare for a possible implanting of the zygote**
- **The lining of the uterus builds up and comes off every 28 days**

Pregnancy stage

- **If the egg is fertilized the zygote embeds in the uterine lining and produces a hormone that causes menstruation from taking place**
- **This stage last**
 - a) **9 months, or 38 week, or 280 days**

Fertilization & Early Pregnancy

Conception

- **During sexual intercourse**
- **Sperm is ejected (ejaculated) into the vagina**
- **The sperm enter the cervix**
- **Sperm go through the uterus**
- **Fertilization takes place in the oviduct**
- **The zygote then implants in the uterus wall**
- **Contraceptive – is a device or chemical that keeps conception from taking place**

Development

- **Fertilization results in a zygote and triggers embryonic development**
- **The shape of a human sperm cell is adapted to its function**

Twinning

- **Fraternal twins - are from separate sperm and different egg**
- **Identical twins - When the cells of the blastula or gastrula separate into two cell masses**

Function of the placenta

- **Provides food and oxygen for the embryo that is removed by diffusion from the mothers blood**
 - **Crosses a membrane and goes into the embryos blood without the two blood systems coming into contact with each other.**
- **Removes wastes from the embryos blood into the mothers blood**

- The umbilical cord is a blood vessel filled chord that attaches the embryo to the placental
Blood from the embryos right ventricle goes directly into the umbilical cord and to the placenta

Human Development

- Human development begins with fertilization in the oviduct

The embryo and placenta take shape during the first month of pregnancy

- Gestation is pregnancy
 - It begins at conception and continues until birth
 - Human gestation is 266 days (38 weeks or 9 months)
 - Mouse gestation is 1 month
 - Elephant gestation is 22 months
- Third trimester

Childbirth

- The process that the uterus pushes the baby out through the cervix and vagina

Birth and Postnatal Development

- **Postnatal development**
 - Babies typically double their birth weight within a few months.
 - Neuron production occurs for six months.
 - allometric growth

Development after birth

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- Infancy
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- Childhood
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- Adolescence
 - Puberty
-
- Adulthood
-
- Senior Citizen.
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