ENDOCRINE SYSTEM

To learn the structure and function of Endocrine Systems
**Endocrine System Notes**

What is the Endocrine system?

What are hormones?

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What is the Endocrine system?

A collection of glands that secrete hormones directly into the circulatory system to be carried toward specific target organs.

What are hormones?

Hormones are your body's chemical messengers. They travel in your bloodstream to specific tissues or organs and work slowly, over time, affecting your growth, development, metabolism, reproduction, and mood.
**Function:**
- Stimulates specific glands and tissues in the body: thyroid, ovaries, testes, mammary glands, and adrenal glands.
- “Master gland”
- Stimulates growth/repair of cells

**Hormones:**
Produces seven hormones:
- Human growth hormone (HGH)
- Thyroid-stimulating hormone (TSH)
Parathyroid (Along Side the Thyroid)

**Function:**
Produce hormones that regulate calcium and phosphorous levels which help in bone development.

**Hormones:**
Parathyroid hormone
THYROID

FUNCTION:
Controls rate at which the body produces energy from nutrients - known as your metabolism.

HORMONES:
- Triiodothyronine (T3)
- Thyroxine (T4)
**THYMUS**

**FUNCTION:**
- Increases white blood cell function
- Increases immune response
- Stimulates certain pituitary hormones

**HORMONES:**
Thymosin and Thymulin
**Adrenal Function:**
- Helps to react to danger - **fight or flight response**
- Regulates body’s response to:
  - Stress
  - Blood sugar levels
  - Cardiovascular function
  - Gastrointestinal function

**Hormones:**
- Adrenaline
- **Steroid** hormones (Cortisol)
**Pancreas**

**Function:**
Lowers blood glucose levels after meals by stimulating the absorption of glucose in the liver and muscle tissue.

**Hormones:**
Insulin
Endocrine and Reproductive Systems

Consists of endocrine glands that control sexual reproduction.
OVARIES

FUNCTION:
- Egg production
- Sexual maturity
- Healthy menstrual cycle

HORMONES:
Estrogen and Progesterone
**TESTES**

**FUNCTION:**
- Sperm production
- Sexual maturity
- Maintains healthy levels of muscle and bone mass

**HORMONES:**
Testosterone
1. Sexual Reproduction involves the production of egg and sperm
2. Egg and sperm join together in fertilization
3. A fertilized egg is called a zygote
4. The purpose of sexual reproduction is to increase the diversity of traits within a species