Biology

What are hormones

- Hormones are chemical massengers in the body
- this means they are chemicals that carry messages from one part of the body to another part
- Instead of using nerves the body sometimes sends hormones to the body

So the process is

- A gland makes a hormone
- the hormone goes into the blood
- blood carries the hormone around the body
- the Hormone reaches a target organ
- the organ changes its activity

Hormones only affect specific cells called target cells

these cells have special receptors that recognise the hormone

Example

insulin only works on certain cells like liver cells and muscle cells

Endocrine glands

- Hormones are produced by endocrine glands
- Endocrine glands release hormones directly into the blood
- all endocrine glands together form a endocrine system

Important gland you must know

Pituitary gland

- This gland is called master gland because it controls other glands
- it releases hormones that tells other glands what to do
- example it tell thyroid gland to release hormone

Thyroid gland

- is gland releases thyroxin
- thyroxin controls metabolism
- metabolism means all chemical reactions happening in the body

thyroxin effects how fast your body uses energy

- Heart rate
- body temperature

Example

if Thyroxin level is high metabolism becomes faster

Adrenal glands

These gland release adrenaline

adrenaline prepare the body for danger or stress

This is called the fight or flight response

Pancreas

Pancreas releases insulin

Insulin controls blood glucose level

Glucose is the sugar in the blood

Insulin helps more glucose from blood into cell

Ovaries

Female

- ovaries produce oestrogen
- oestrogen control the menstrual cycle

Testes

- it is present in males
- testes produced testosterone
- testosterone controls male puberty

Difference between hormones and nerves

Your body has two communication systems

nervous system

hormone system

nervous system

messages travel through the neuron

Characteristics

very fast

very short action

very precise

Example

touching something hot

your hand moves away instantly

Hormones

- Hormones travel in the blood

Characteristics

- Slower
- affects last longer
- affect larger areas

Example

- adrenal and makes you feel shaky for a while
- easy way to remember
- if If the response is very fast then it is nervous
- if there response last longer than it is hormones

Adrenaline and fight or flight

- adrenaline is released by the eternal glands
- it prepare the body for fight or flight

- **Adrenaline Makes the Heartbeat faster and stronger**
- **increases blood flow to muscles**
- **causes liver to break down glycogen into glucose**
- **increases blood glucose level social get more energy**