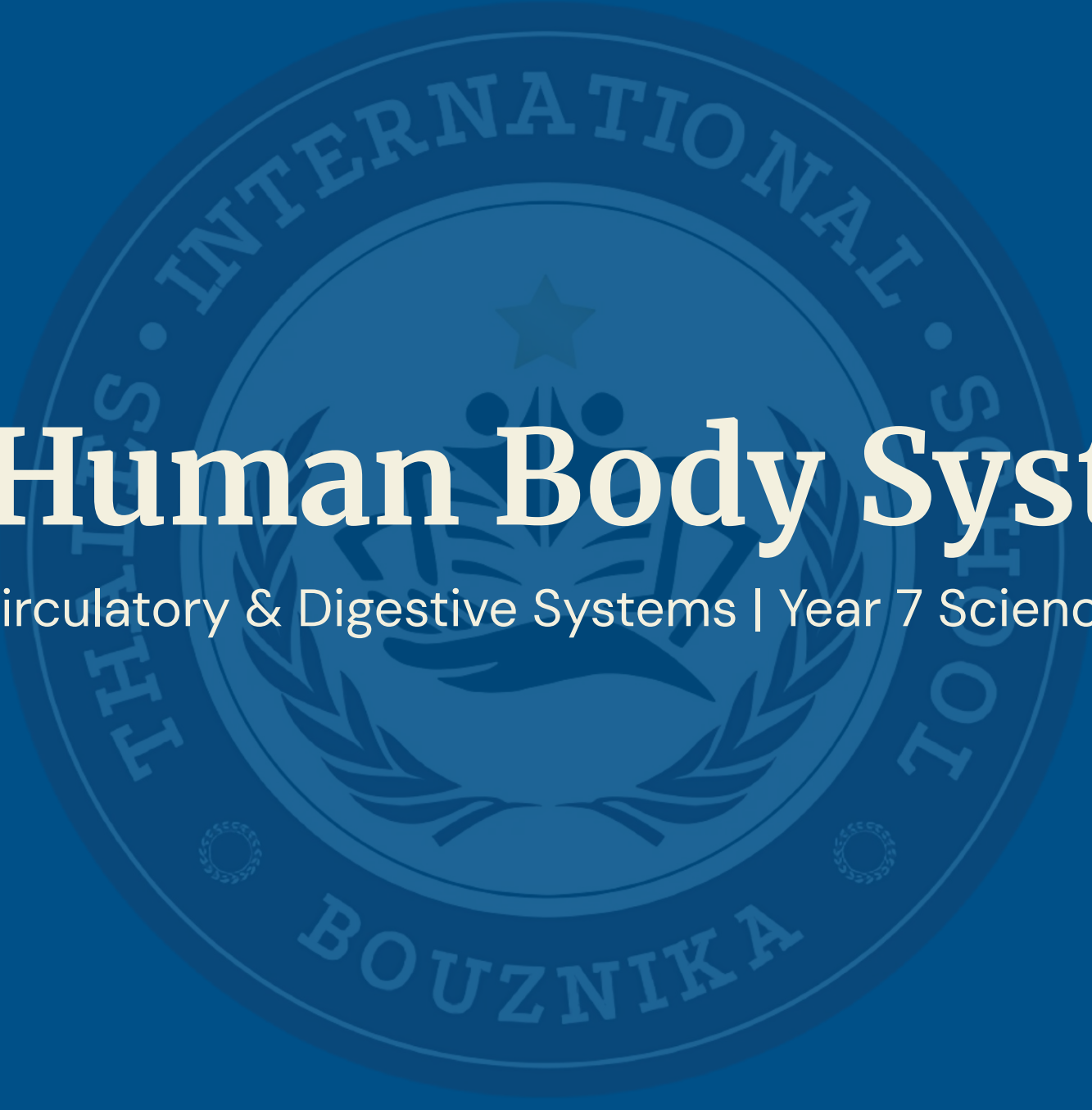




The Human Body Systems

Circulatory & Digestive Systems | Year 7 Science

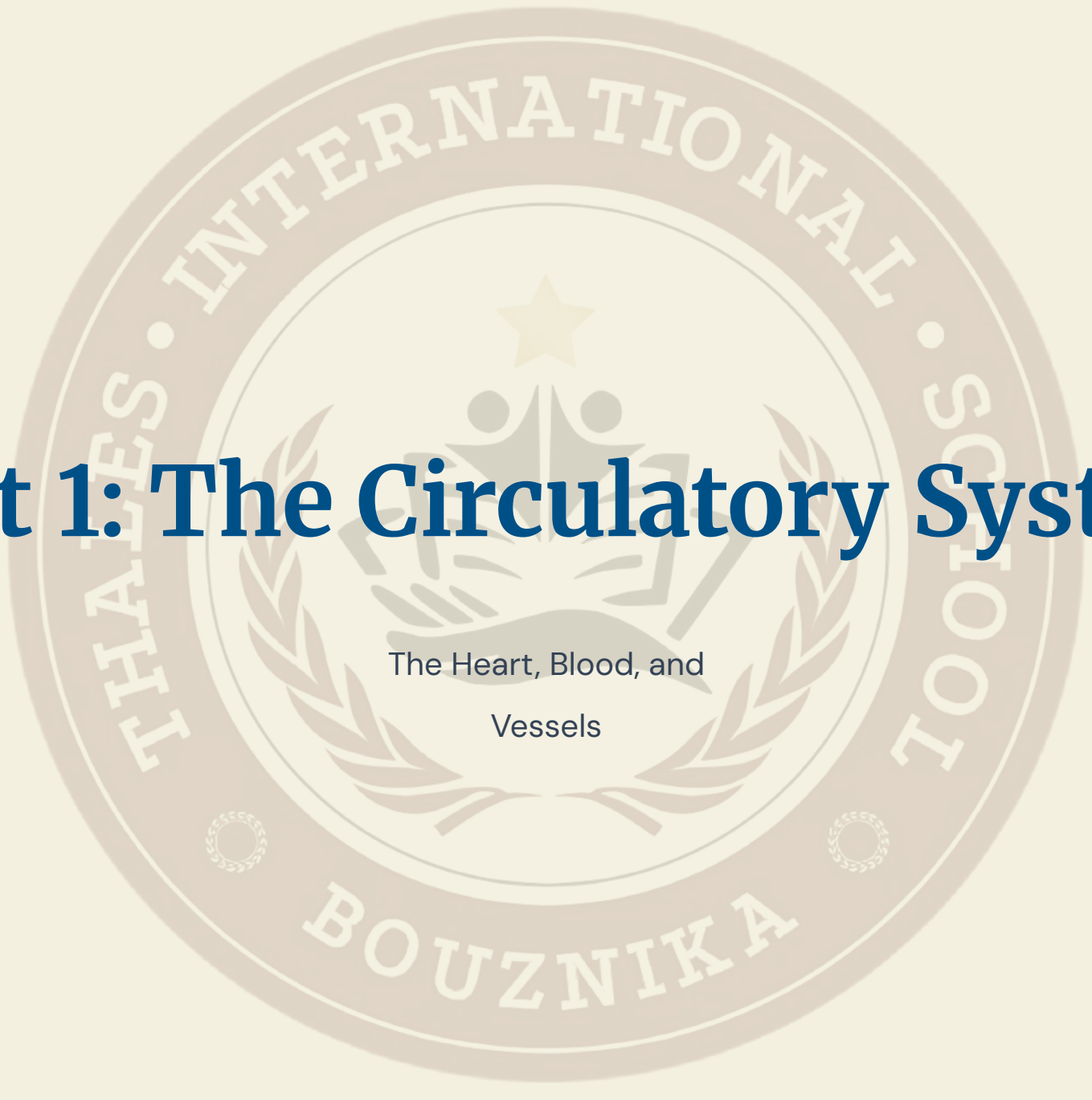
Teamwork in the Body

The Circulatory System

Think of this as the body's **transport network**. It moves essential supplies like oxygen and food to every cell and takes away the trash (waste).

The Digestive System

Think of this as the body's **fuel processing plant**. It breaks down the food we eat into tiny nutrients that our cells can actually use.



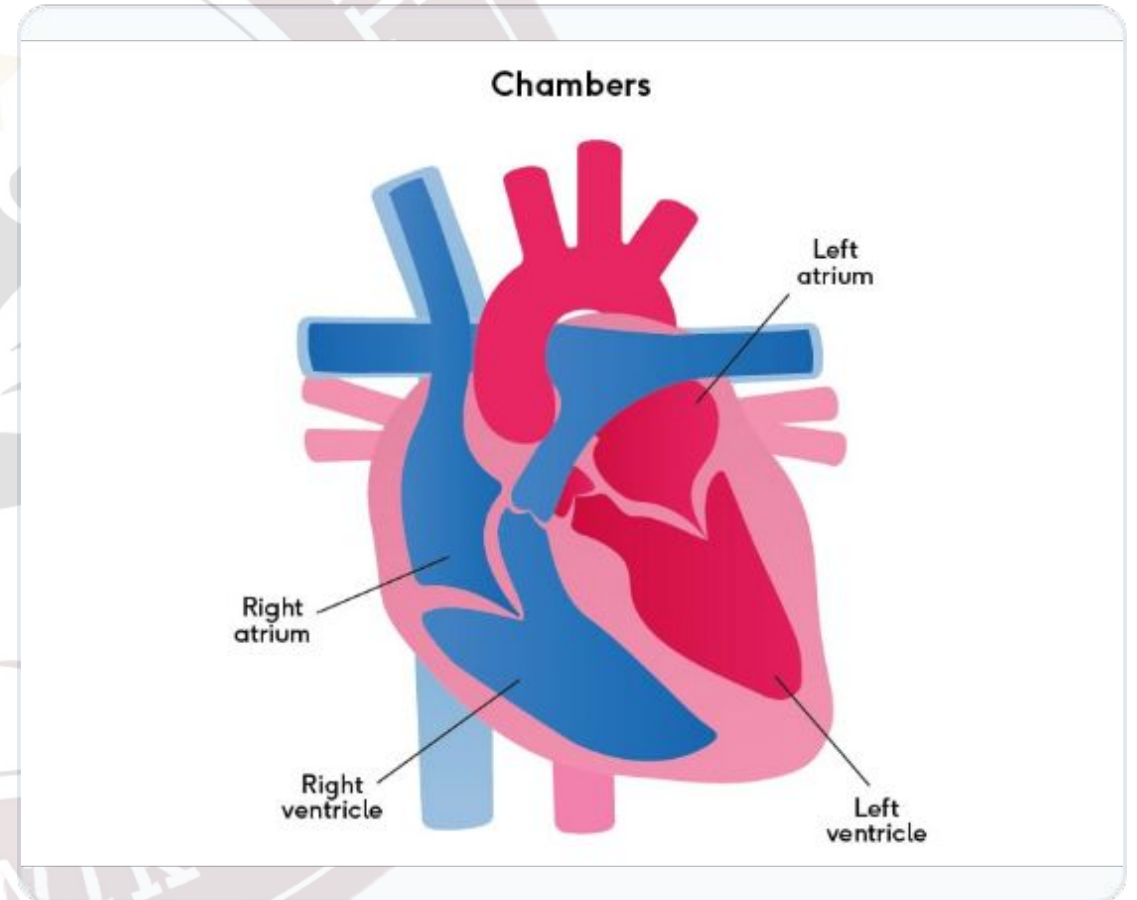
Part 1: The Circulatory System

The Heart, Blood, and
Vessels

The Engine: The Human Heart

The heart is a muscular organ with **four chambers** that acts like a double pump:

- **Right Side:** Pumps blood to the lungs to pick up oxygen.
- **Left Side:** Pumps oxygen-rich blood out to the rest of the body.
- It beats about 100,000 times a day without stopping!



The Highways: Blood Vessels



Arteries

Carry blood **Away** from the heart.
They have thick walls to handle high pressure.



Veins

Carry blood **back** to the heart. They have valves to stop blood flowing backwards.



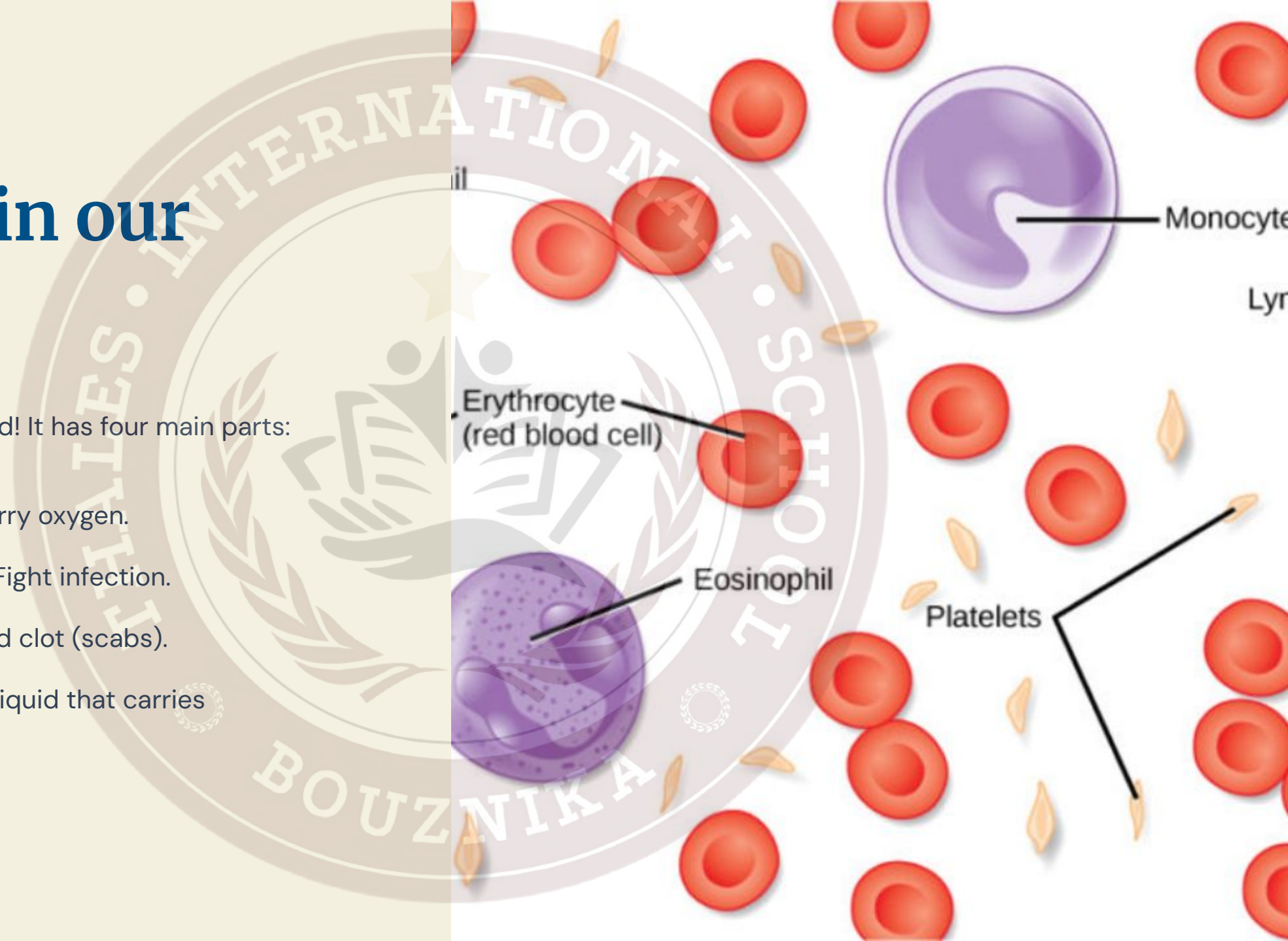
Capillaries

Tiny vessels connecting arteries and veins. This is where oxygen and nutrients are swapped.

What is in our Blood?

Blood isn't just red liquid! It has four main parts:

- **Red Blood Cells:** Carry oxygen.
- **White Blood Cells:** Fight infection.
- **Platelets:** Help blood clot (scabs).
- **Plasma:** The yellow liquid that carries everything.

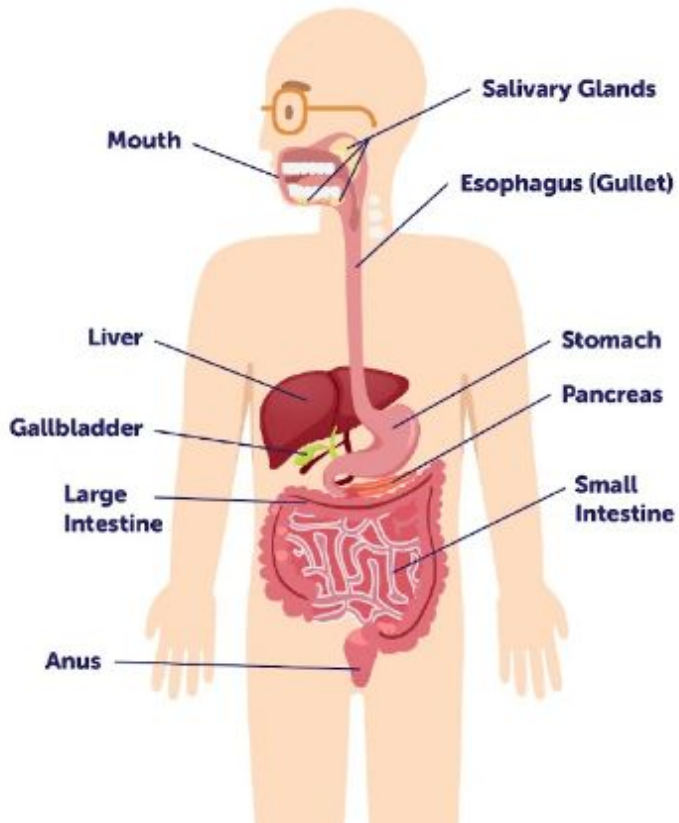


The logo of the Thales International School of Bouznika is a circular emblem. It features a central design with two stylized human figures holding hands, a star above them, and a laurel wreath. The text "THALES • INTERNATIONAL • SCHOOL" is written in a circle around the top, and "BOUZNICA" is at the bottom. There are also two small circular motifs on the sides.

Part 2: The Digestive System

From Food to Fuel

The Long Journey



The digestive tract is basically one long tube (about 9 meters!) starting at the mouth and ending at the anus.

- **Ingestion:** Taking food in.
- **Digestion:** Breaking food down.
- **Absorption:** Taking nutrients into the blood.
- **Egestion:** Getting rid of waste.

Two Ways to Digest

Mechanical Digestion

Physically breaking food into smaller pieces.

- **Teeth:** Chewing and grinding.
- **Stomach:** Churning and mixing food.

Chemical Digestion

Using chemicals (enzymes) to break food into molecules.

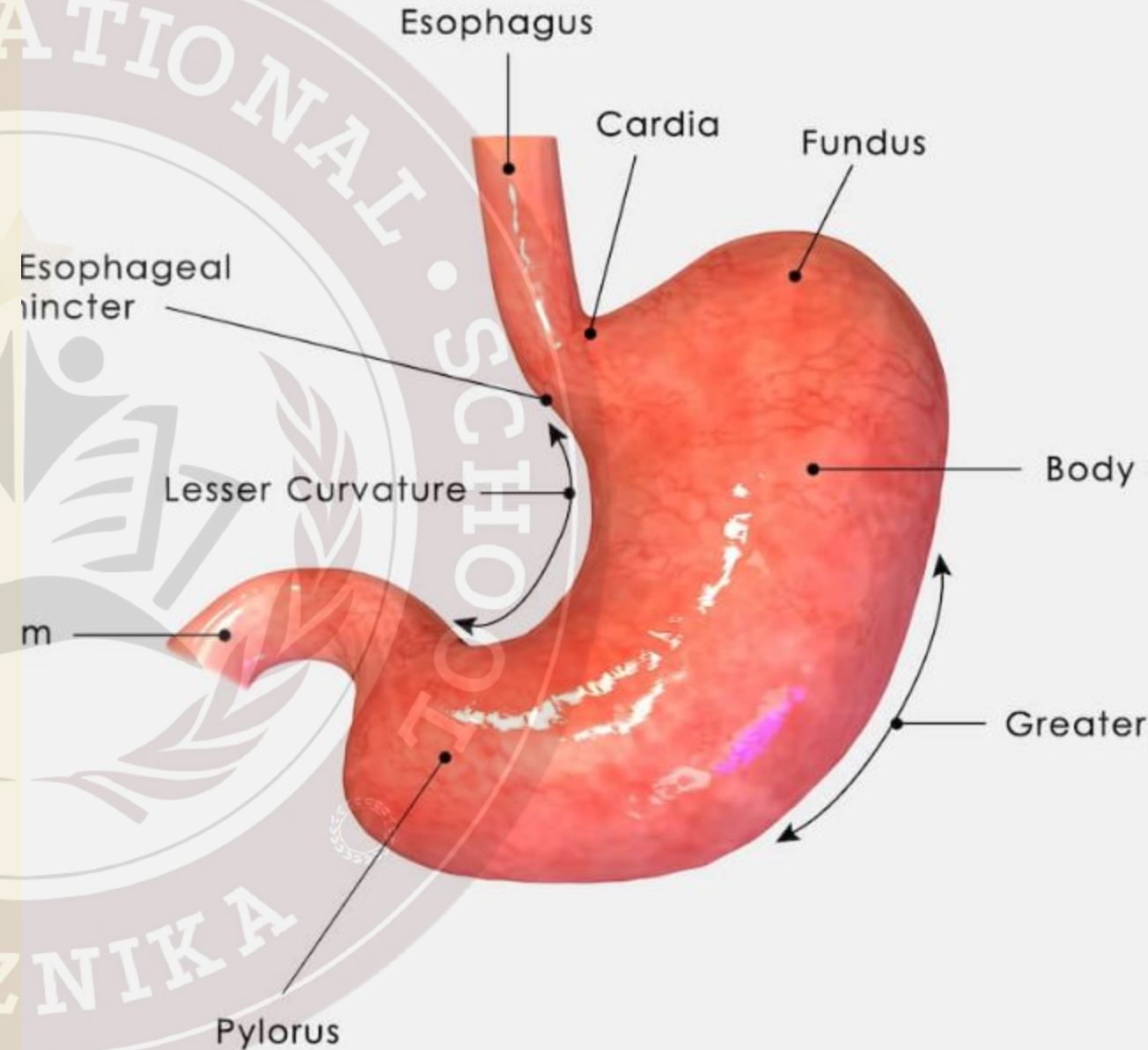
- **Saliva:** Breaks down starch.
- **Stomach Acid:** Breaks down proteins.

The Mixer: The Stomach

The stomach is a muscular bag that churns food with strong acids.

It turns your meal into a thick liquid called **chyme**.

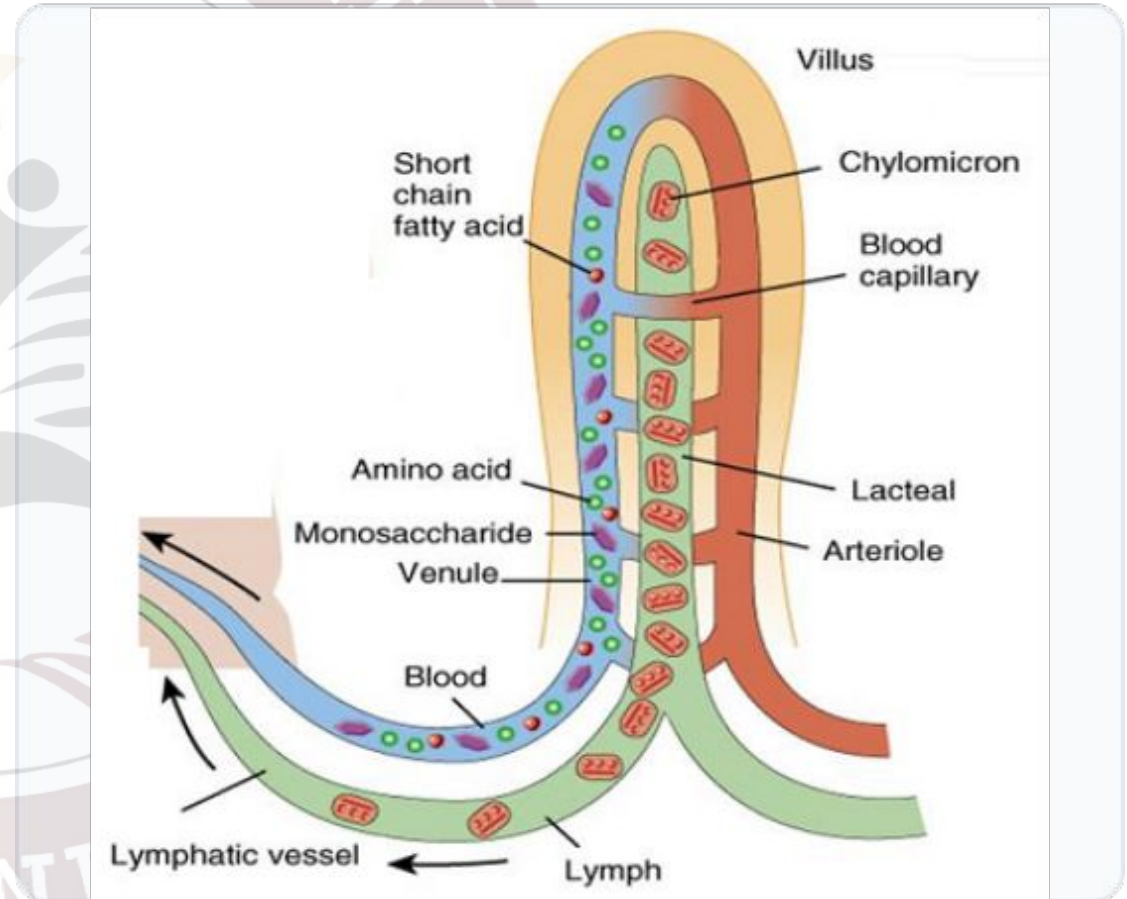
The acid kills bacteria and enzymes start breaking down proteins. Mucus protects the stomach lining from its own acid!



The Processor: Small Intestine

This is where the magic happens! It is "small" in width, but very long (6–7 meters).

- **Villi:** Tiny finger-like shapes that cover the inside walls.
- They massively increase surface area to absorb nutrients quickly.
- Nutrients pass through the villi walls directly into the blood.



Working Together

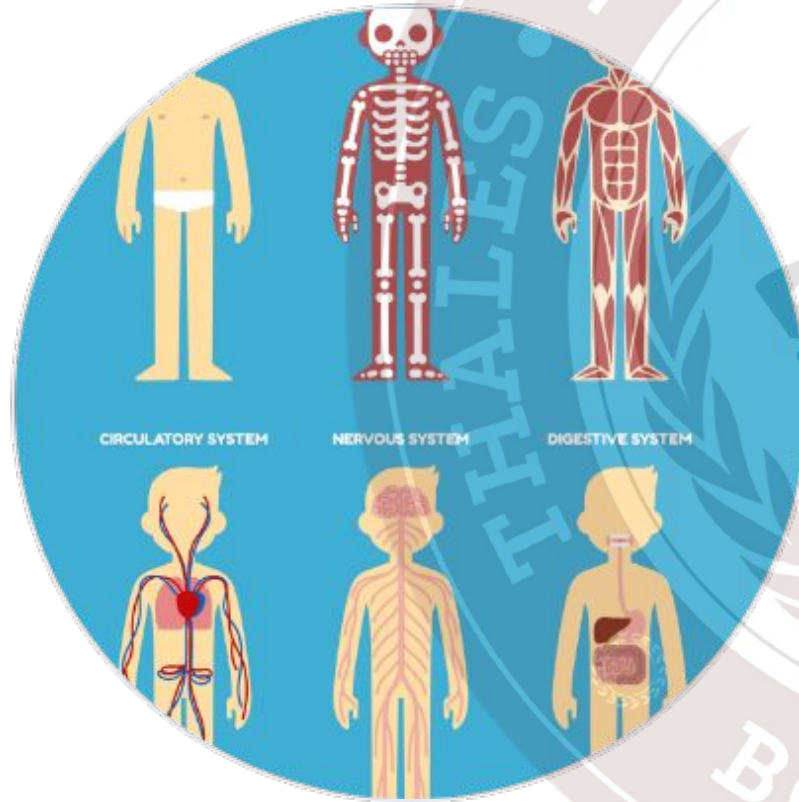
Digestive → Circulatory

The digestive system breaks down food into glucose and nutrients. The **villi** transfer these into the **capillaries** (blood vessels) to be carried away.

Circulatory → Body

The circulatory system transports these nutrients (fuel) and oxygen to every cell in the body so they can create energy to survive.

Summary



- The **Circulatory System** is the transport network (Heart, Blood, Vessels).
- The **Digestive System** breaks down food for fuel (Mouth, Stomach, Intestines).
- They connect at the **Small Intestine**.
- Without both working together, our cells wouldn't get the energy they need!

Any Questions?

Thank you for listening!

