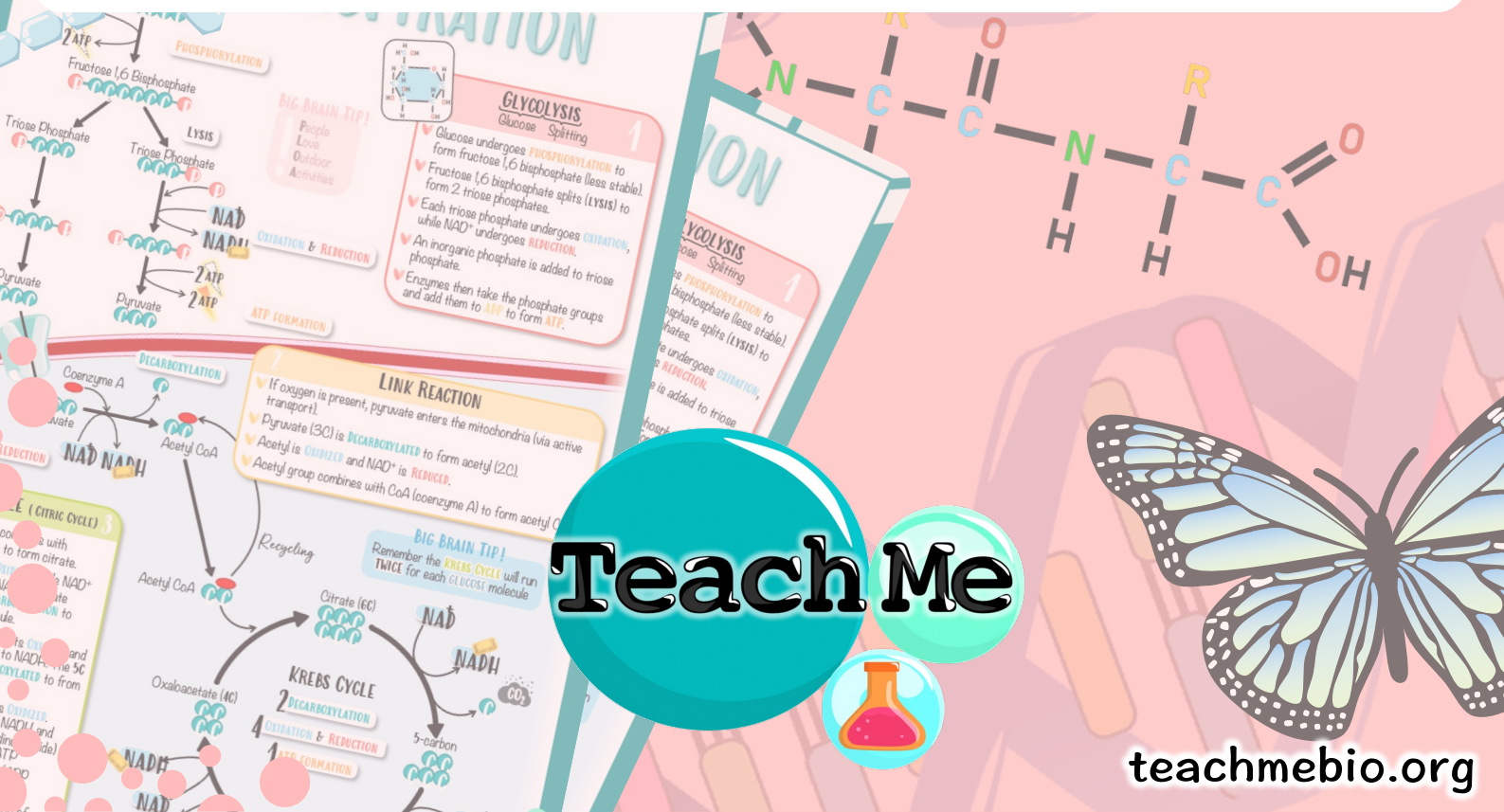


TeachMe

STUDY NOTES

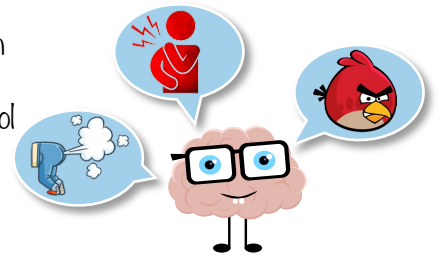
CHAPTER 15 - CONTROL & COORDINATION

THE NERVOUS SYSTEM



THE NERVOUS SYSTEM

NERVOUS SYSTEM — comprised of cells which carry electrical impulses (signals) between the brain and the rest of the body via the spinal cord and nerves. Considered as the control center of the body. It can coordinate actions (muscles), transmit sensory information, control emotions, memory, etc...



Central Nervous System

"Big Boss"

CNS

Includes:

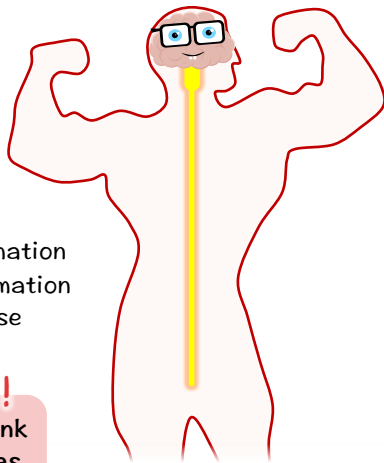
- ↳ Brain
- ↳ Brainstem
- ↳ Spinal cord

Purpose:

- ↳ Receives information
- ↳ Interpret information
- ↳ Initiate response

BIG BRAIN TIP!

For the ANS. Think of "Autonomic" as "Automatic"



Peripheral Nervous System

"Worker of Big Boss"

PNS

Includes:

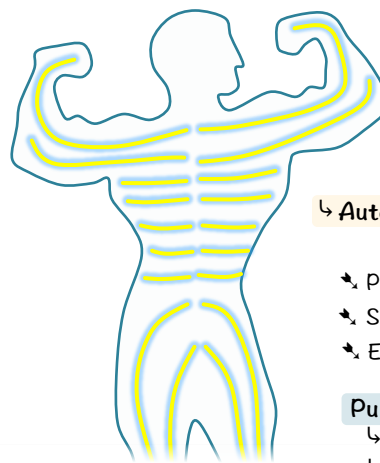
- ↳ **Somatic nervous system** (Voluntary/conscious)
 - ↳ Motor neurons
 - ↳ Sensory neurons

- ↳ **Autonomic nervous system (ANS)** (Involuntary/unconscious)

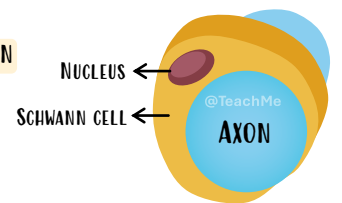
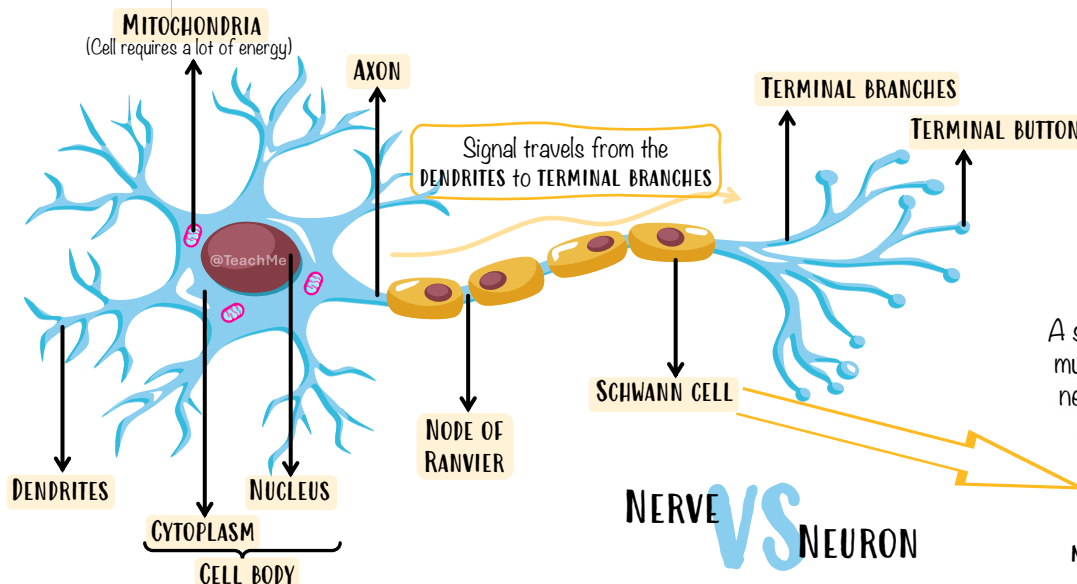
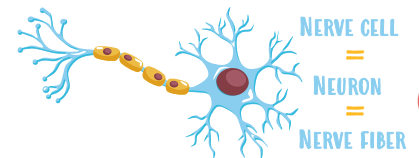
- ↳ Parasympathetic neurons [Rest & Digest]
- ↳ Sympathetic neurons [Fight or Flight]
- ↳ Enteric nervous system [Digestive...]

Purpose:

- ↳ Carry info to the CNS
- ↳ Carry info away from CNS towards muscle & glands etc.



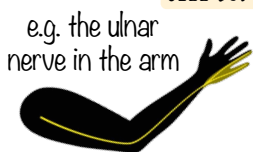
NEURON — An individual cell that carries electrical impulses (signals) from one point in the body to another. Some neurons are long (1 meter) some very short (<1 millimeter).



A single schwann cell will wrap itself multiple times around the axon of a neuron until it forms many layers which forms the myelin sheath

NERVE VS NEURON

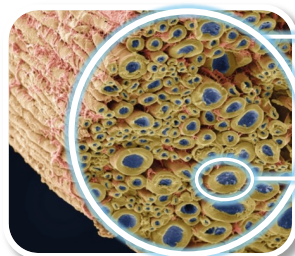
A bundle of many individual NEURONS grouped together forms a NERVE.



SEM (Scanning electron microscope)

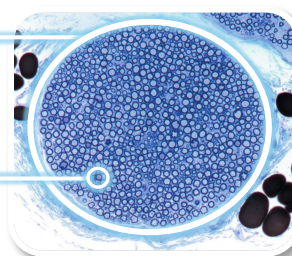
Blue = Axons

Yellow = Myelin Sheath



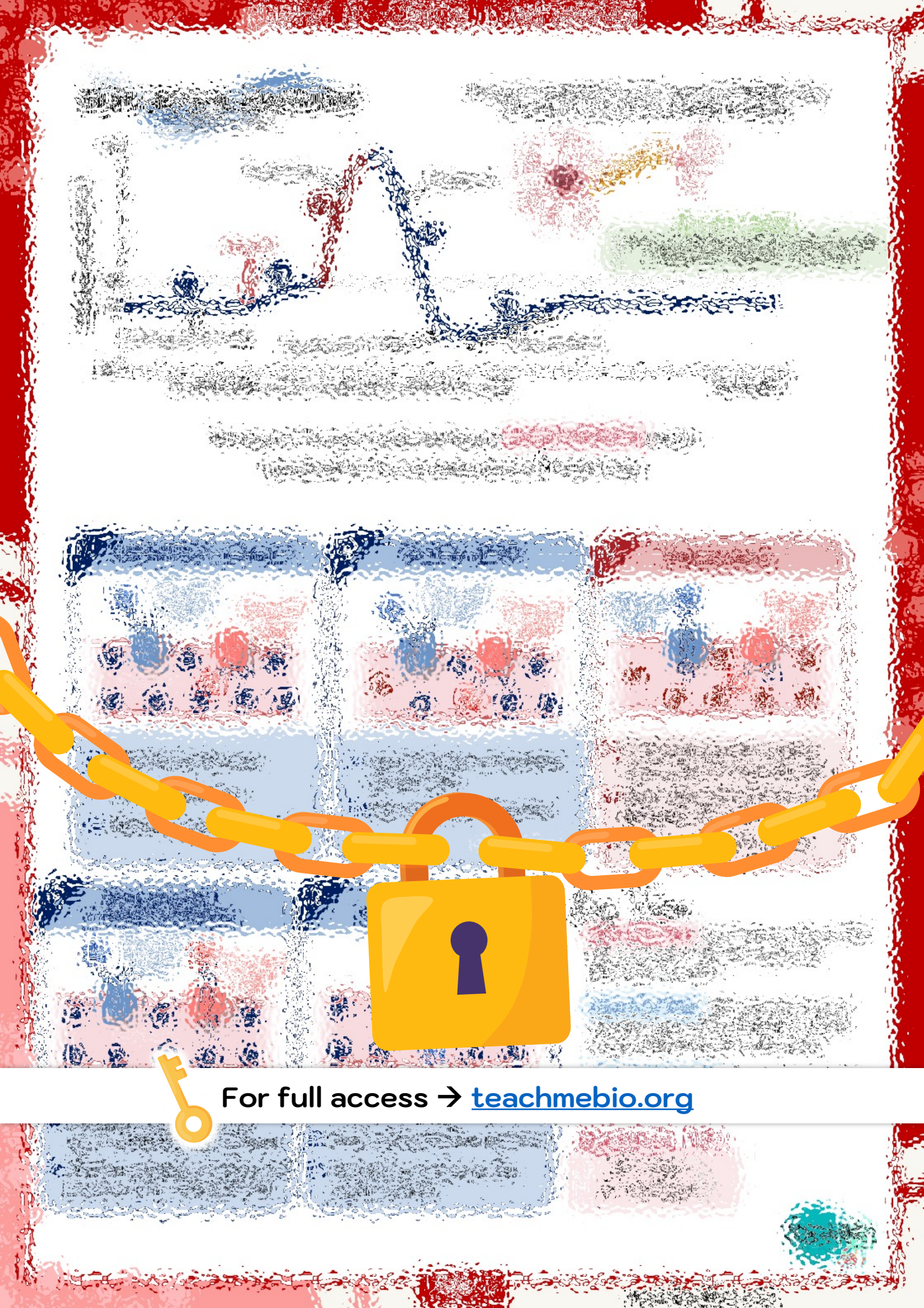
NERVE

NEURON



Light Microscope

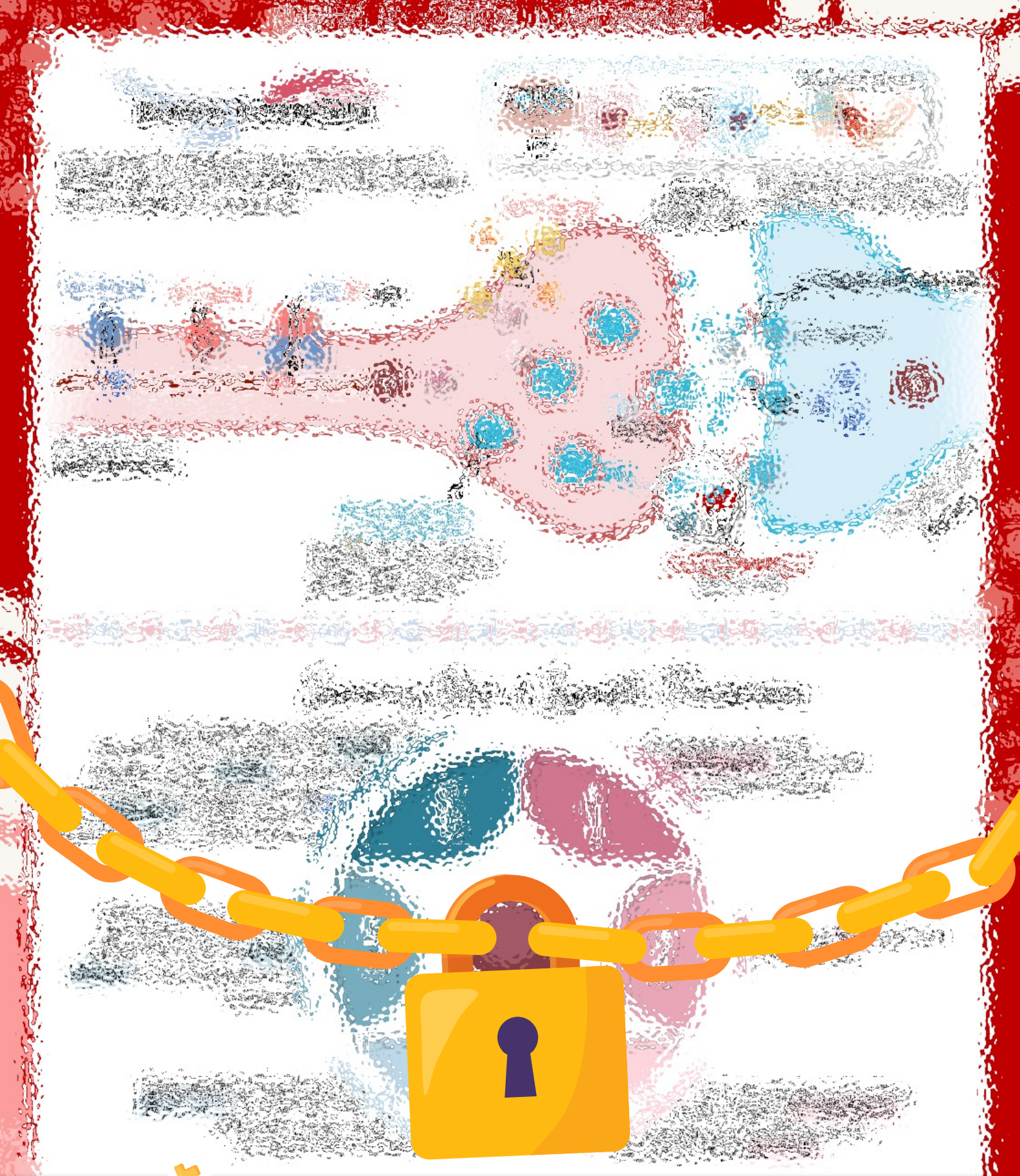




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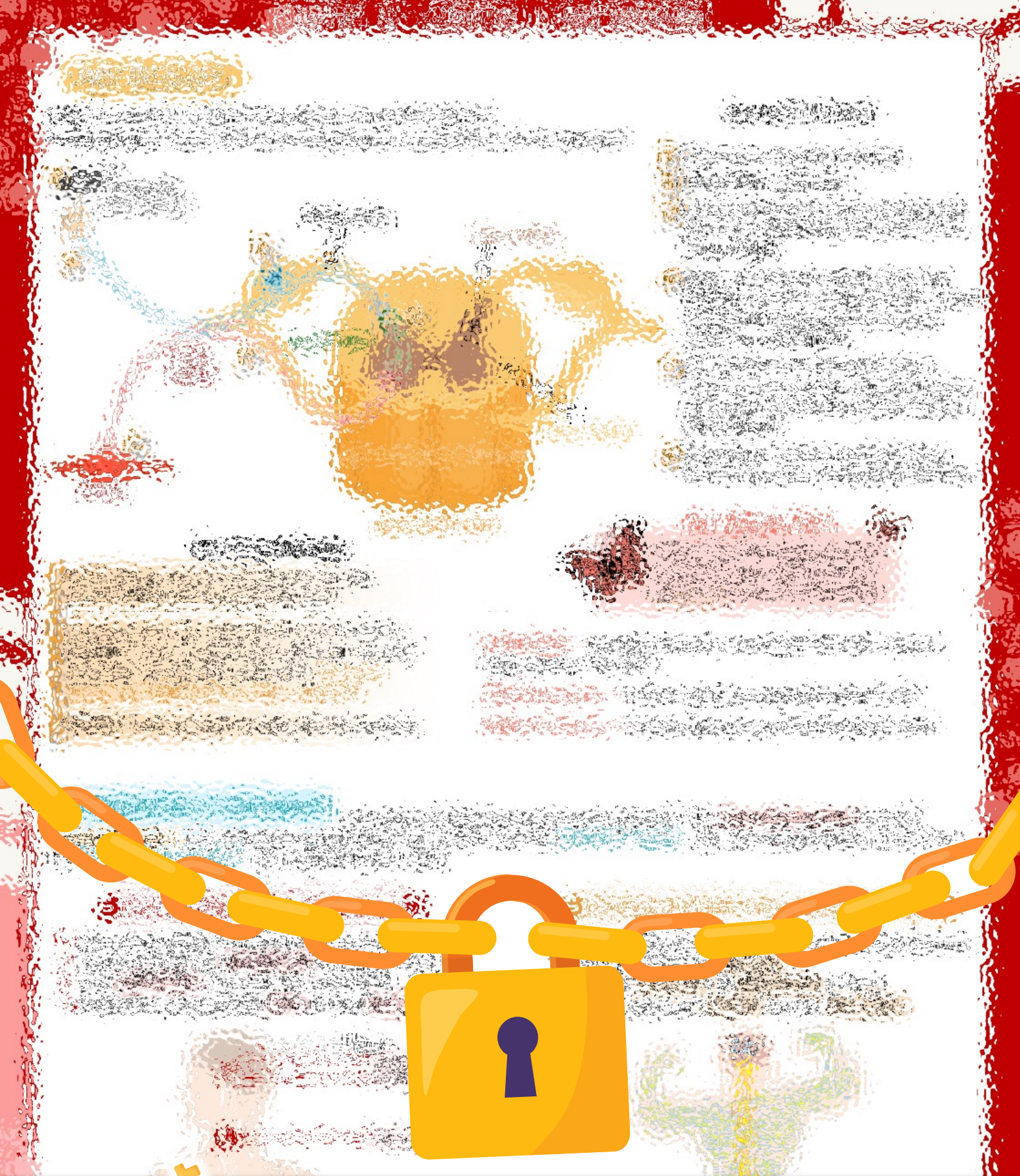
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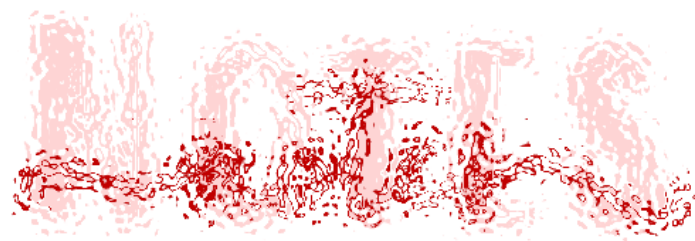
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