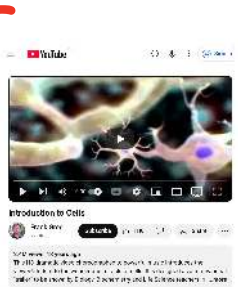
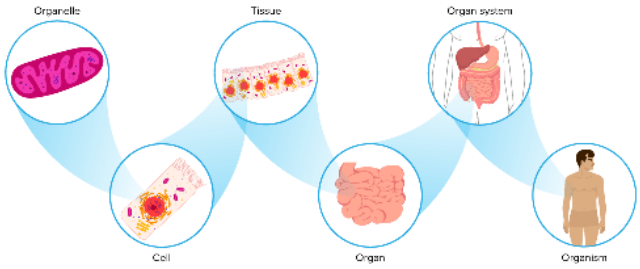
LEVELS of ORGANIZATION

REMEMBER THIS? ← INTRODUCTION TO CELLS

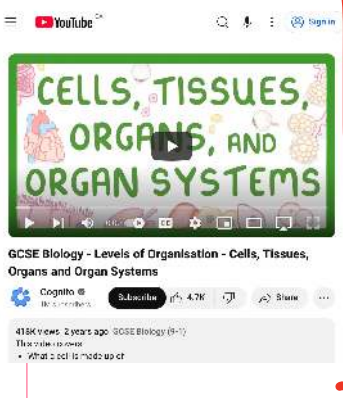
https://www.youtube.com/watch?v=gFuEo2ccTPA





ORGANELLE → CELL → TISSUE → ORGAN → ORGAN SYSTEM → ORGANISM

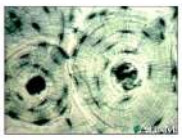
CELLS REPRODUCE THROUGH A PROCESS CALLED CELL DIVISION
↳ IN ORDER TO BE ALIVE, A CELL MUST REPRODUCE

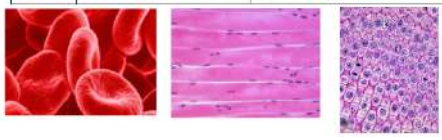


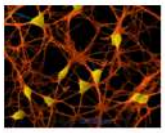
WATCH: LEVELS of ORGANIZATION

https://www.youtube.com/watch?v=MB6mE6weCS4

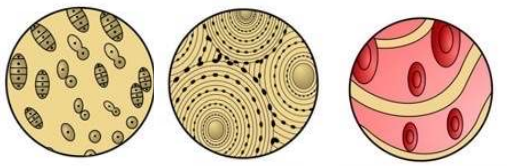
Cell	Structure	Function
Muscle	Elongated and tapered on either end	Move parts of the body
Skin	Flat and thin, brick-shaped or honeycomb	Fit closely together to form a continuous protective layer
Nerve	Long branched fibres running from the main part of the cell	To carry nerve signals from one part of the body to another
Blood	Thin, disc-like	Carry oxygen in the bloodstream (giving them a large surface area to collect oxygen)
Bone	Thick, mineral matrix	To provide support



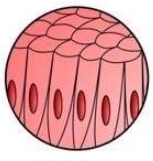




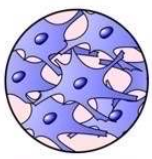
TISSUE → WHEN SPECIALIZED CELLS WORK TOGETHER → TISSUE
→ 4 TYPES of TISSUE in HUMANS.



CONNECTIVE → SUPPORTS & CONNECTS diff PARTS of BODY
EX: FAT, CARTILAGE, BONES, TENDONS



EPITHELIAL → COVERS SURFACE of BODY & OUTSIDE of ORGANS.



NERVOUS → BRAIN, SPINAL CORD & NERVES.


Muscle tissue

MUSCLE → ALLOWS YOU TO MOVE (in & OUTSIDE YOUR BODY)
EX: CARDIAC TISSUE, SMOOTH MUSCLES in SM. INTESTINE

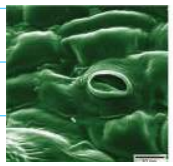
TISSUES in PLANTS → 3 TYPES → TRANSPORT



PHOTOSYNTHETIC/STORAGE

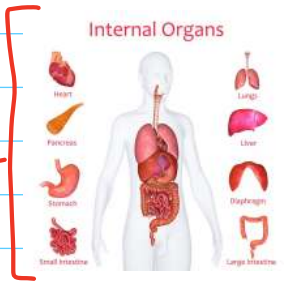


PROTECTIVE



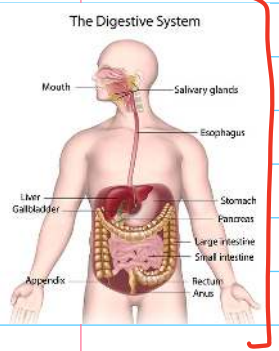
ORGANS → SPECIALIZED TISSUES TOGETHER FORM ORGANS.

MAJOR HUMAN ORGANS



→ MUSCLE in STOMACH HELPS TO BREAK DOWN FOOD → STOMACH IS MAJOR ORGAN in DIGESTIVE SYSTEM

ORGAN SYSTEMS → WHEN MULTIPLE ORGANS WORK TOGETHER TOWARDS AN OVERALL FUNCTION → MAKES AN ORGAN SYSTEM
EX: DIGESTIVE SYSTEM → MADE of 10 diff. ORGANS



ORGANISM → WHEN ORGAN SYSTEMS ARE PUT TOGETHER THEY FORM ORGANISMS.

Levels of Organization

Are there other things in this world that start out with something small that work together to form something bigger, then they work together to form something bigger etc.?

Requirements

- ✘ Create a "metaphor" for the levels of organization that includes each of the levels (cells, tissue, organs, organ systems, organism)
- ✘ Compare your metaphor to the actual levels
- ✘ Colour and drawings to support your metaphor

Organism	
Organ System	
Organ	
Tissue	
Cell	Metaphor

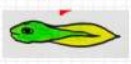
Example

Basic building unit is a letter. Many letters combined form a word. Many words combined form a sentence. Many sentences combined form a paragraph. Many paragraphs combined form a book.

Cell		Letter	
Tissue		Word	
Organ		Sentence	The apple fell from the tree.
Organ System		Paragraph	
Organism		Book	

Non – Example:

Many frog eggs DO NOT make a young tadpole. One egg **grows** into a tadpole. This is NOT a good example of the levels of organization in a living organism.

Cell		Egg	
Tissue		Young Tadpole	
Organ		Mature Tadpole	
Organ System		Froglet	
Organism		Frog	