

Theme for today (Sept. 26/29): Interconnecting Systems

- within cells
- within the body

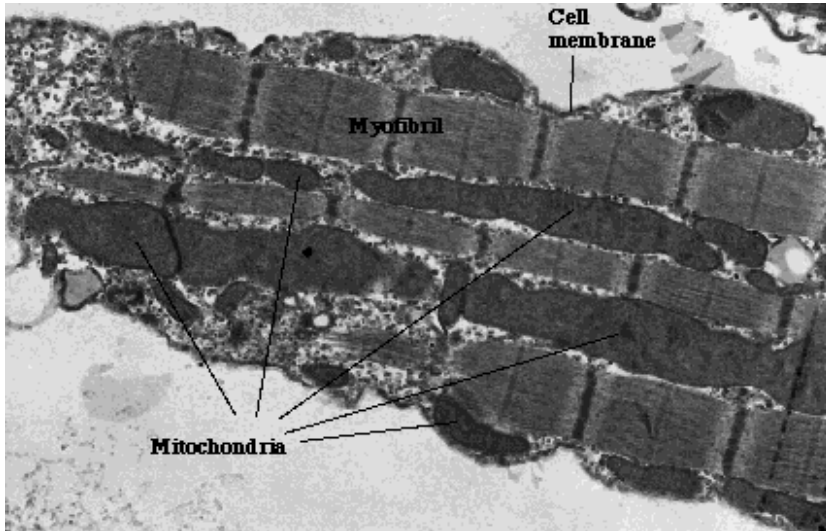
Review:

How do a cell's parts (organelles) cooperate to release insulin (a protein hormone)?

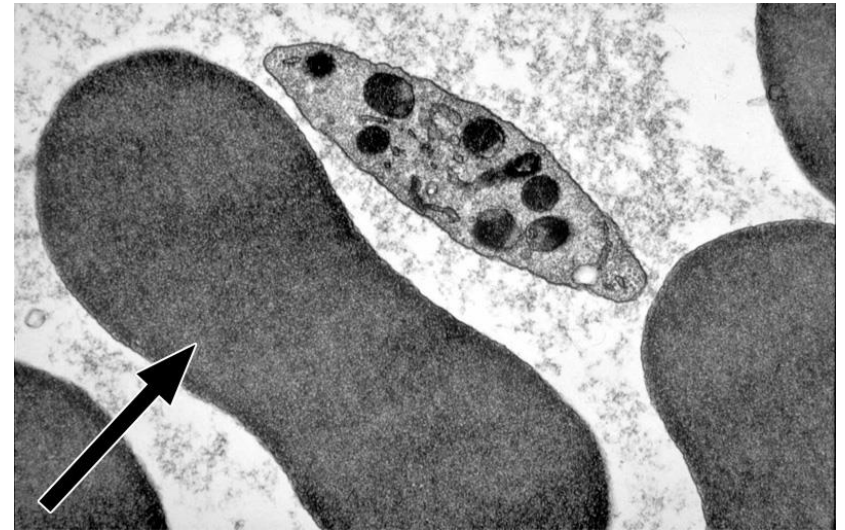


- Discussion question:
 - Within 1 person's body, are all cells the same?
 - How do you know?

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heart muscle cell

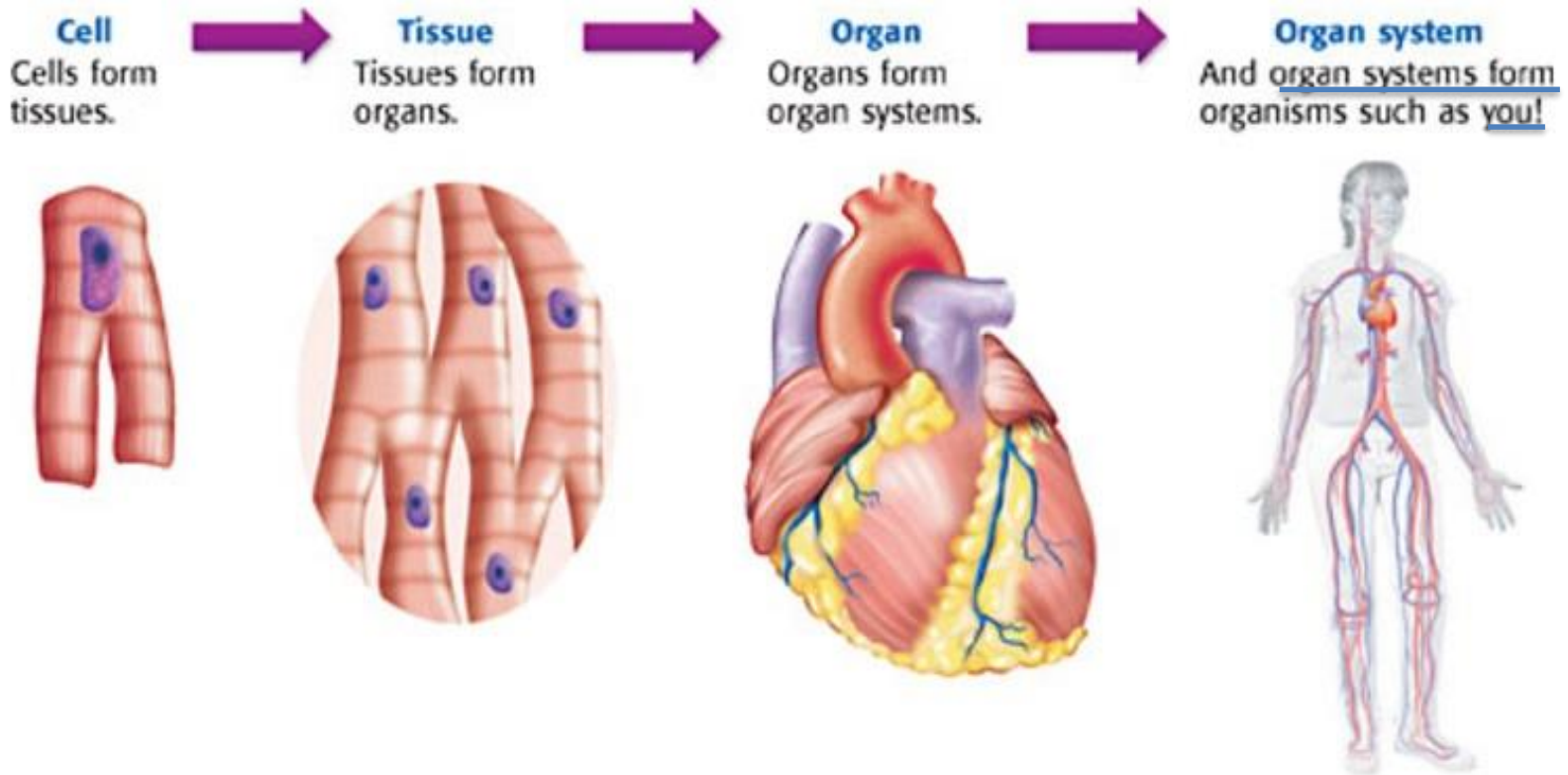


red blood cell

Just as different organelles work together to help a cell function, different cells work together to help an organism function.

Cells, tissues, organs, organ systems

Figure 3 Levels of Organization in the Cardiovascular System



(incr)edible journey: a cherry in your mouth becomes glucose in your muscle cells

STEP	A FEATURE OF CELLS INVOLVED IN THIS STEP
Chew and swallow the cherry.	Example: muscle cells contract and relax to move your jaws and push food down.
Digest the cherry (in the stomach and small intestine).	
Nutrients from the cherry are absorbed into the blood.	
Insulin tells cells: "Take more glucose out of the blood!"	
Muscle cells (and others) take more glucose out of the blood.	

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STEP	A FEATURE OF CELLS INVOLVED IN THIS STEP
Muscle cells break down food and produce CO ₂ .	
CO ₂ diffuses out of the muscle cells into the blood.	
The blood carries CO ₂ to the lungs.	
CO ₂ diffuses out of the blood into the lungs.	
The lungs expel the CO ₂ -rich air.	