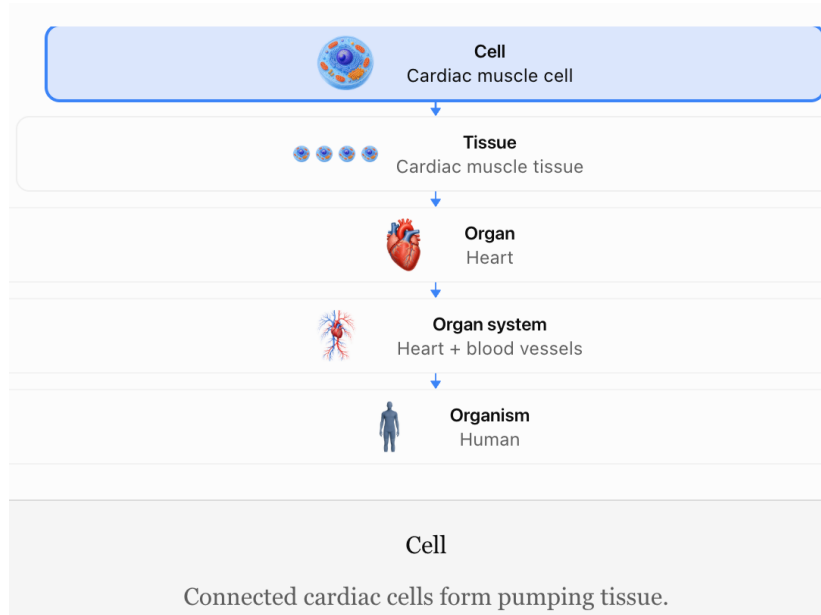


Levels of Organization

The Levels of Organization

The human body is organized into five main levels:

Cell → Tissue → Organ → Organ System → Organism



Complete the Sentences

Use these words:

cells — tissues — organs — organ systems — organism

1. Similar _____ work together to perform a particular function.
2. Groups of similar cells working together form _____.
3. Different tissues working together form _____.
4. Several organs working together form _____.
5. All of the organ systems working together make a complete _____.

Matching

Match each term with the correct description.

Term	Description
1. Cell	A. Different organs working together
2. Tissue	B. The complete living individual
3. Organ	C. The basic unit of life
4. Organ system	D. Similar cells working together
5. Organism	E. Different tissues working together

Levels of Organization

Multiple Choice

6. Which is the smallest level of organization listed below?

- A. Tissue
- B. Organ
- C. Cell
- D. Organ system

7. A group of similar cells working together forms a:

- A. tissue
- B. organ
- C. system
- D. organism

8. Which is an example of an organ?

- A. Muscle cell
- B. Muscle tissue
- C. Heart
- D. Circulatory system

9. Which is an example of an organ system?

- A. Stomach
- B. Digestive system
- C. Epithelial tissue
- D. Nerve cell

10. Which sequence shows the correct order from simplest to most complex?

- A. Cell → Organ → Tissue → Organism → Organ system
- B. Tissue → Cell → Organ → Organ system → Organism
- C. Cell → Tissue → Organ → Organ system → Organism
- D. Organism → Organ system → Organ → Tissue → Cell

11. Which statement best describes an organ?

- A. A group of identical organs
- B. Several different tissues working together
- C. A single specialized cell
- D. All the systems of the body

Levels of Organization

12. The heart belongs to which organ system?

- A. Digestive system
- B. Respiratory system
- C. Circulatory system
- D. Nervous system

Build the Hierarchy

13. Complete each example by identifying the level of organization.

Muscle cell → Muscle tissue → Heart → Circulatory system → Human

Structure	Level
Muscle cell	_____
Muscle tissue	_____
Heart	_____
Circulatory system	_____
Human	_____

14. Complete the hierarchy:

Nerve cell → _____ tissue → Brain → _____ system → Human

15. Complete the digestive example:

Smooth muscle cell → Smooth muscle tissue → _____ → Digestive system → _____

Cells and Tissues

16. What is a tissue?

17. Why do cells in the human body become specialized?

- A. So every cell performs exactly the same job
- B. So different cells can perform different functions
- C. So cells can become organ systems
- D. So cells no longer need energy

18. Muscle cells can contract. How does having many muscle cells working together help form useful muscle tissue?

Levels of Organization

19. Nerve cells are specialized to transmit electrical signals. What would be the advantage of many nerve cells working together as nervous tissue?

Tissues and Organs

Most organs contain **several different types of tissue** working together. For example, the stomach contains:

- muscle tissue that contracts and mixes food
- epithelial tissue that lines and protects the stomach
- nervous tissue that helps control activity
- connective tissue that supports other tissues

20. Why is the stomach considered an organ rather than a tissue?

21. The heart contains muscle tissue, nervous tissue, connective tissue, and epithelial tissue. Why does the heart need several types of tissue?

22. Which statement is correct?

- A. An organ contains only one type of cell.
- B. An organ usually contains different tissues working together.
- C. A tissue contains several organ systems.
- D. An organ is always made from one tissue.

Organs and Organ Systems

23. Match each organ to its main organ system.

Organ	Organ System
Heart	_____
Lungs	_____
Stomach	_____
Brain	_____
Kidneys	_____

Choose from: **Nervous — Digestive — Respiratory — Urinary — Circulatory**

Levels of Organization

24. Name two organs that are part of the digestive system.

1. _____
2. _____

25. Explain why several organs are needed in an organ system instead of one organ doing everything.

Organ Systems Working Together

Organ systems do not work independently. They constantly interact with other systems to keep the body functioning.

26. During exercise, your muscle cells need more oxygen.

Which system brings oxygen into the body?

Which system transports the oxygen to the muscles?

27. Explain how these two organ systems work together during exercise.

28. The digestive system absorbs glucose from food. Which organ system transports this glucose to cells around the body?

- A. Respiratory system
- B. Circulatory system
- C. Skeletal system
- D. Nervous system

29. Muscle cells use oxygen and glucose to release energy. Name TWO organ systems involved in supplying these materials.

1. _____
2. _____

Levels of Organization

30. Why would the failure of one major organ system potentially affect several other organ systems?

Put It in Order

31. Number each structure from 1 (simplest) to 5 (most complex).

- _____ Heart
- _____ Human
- _____ Muscle cell
- _____ Circulatory system
- _____ Muscle tissue

32.

- _____ Nervous system
- _____ Nervous tissue
- _____ Human
- _____ Brain
- _____ Nerve cell

Identify the Level

Write cell, tissue, organ, organ system, or organism.

33. Red blood cell: _____

34. Blood: _____

35. Heart: _____

36. Circulatory system: _____

37. Human: _____

38. Muscle tissue: _____

39. Lung: _____

40. Respiratory system: _____

Levels of Organization

Challenge

41. A student says:

"The heart is made of muscle cells, so the heart is a tissue."

Explain why this statement is incorrect.

42. Consider the following pathway:

Oxygen enters the lungs → Oxygen enters the blood → The heart pumps the blood → Oxygen reaches muscle cells.

Identify at least **three levels of organization** represented in this pathway and give an example of each.

Level	Example

43. A person's respiratory system stopped functioning properly. Predict how this could eventually affect their muscle cells.

44. Explain how the five levels of organization allow millions of specialized cells to work together as one functioning human organism.

The hierarchy is:

Cell → Tissue → Organ → Organ System → Organism

Each level depends on the levels below it. Specialized cells work together in tissues, tissues combine to make organs, organs cooperate in organ systems, and the organ systems interact to keep the entire organism functioning.