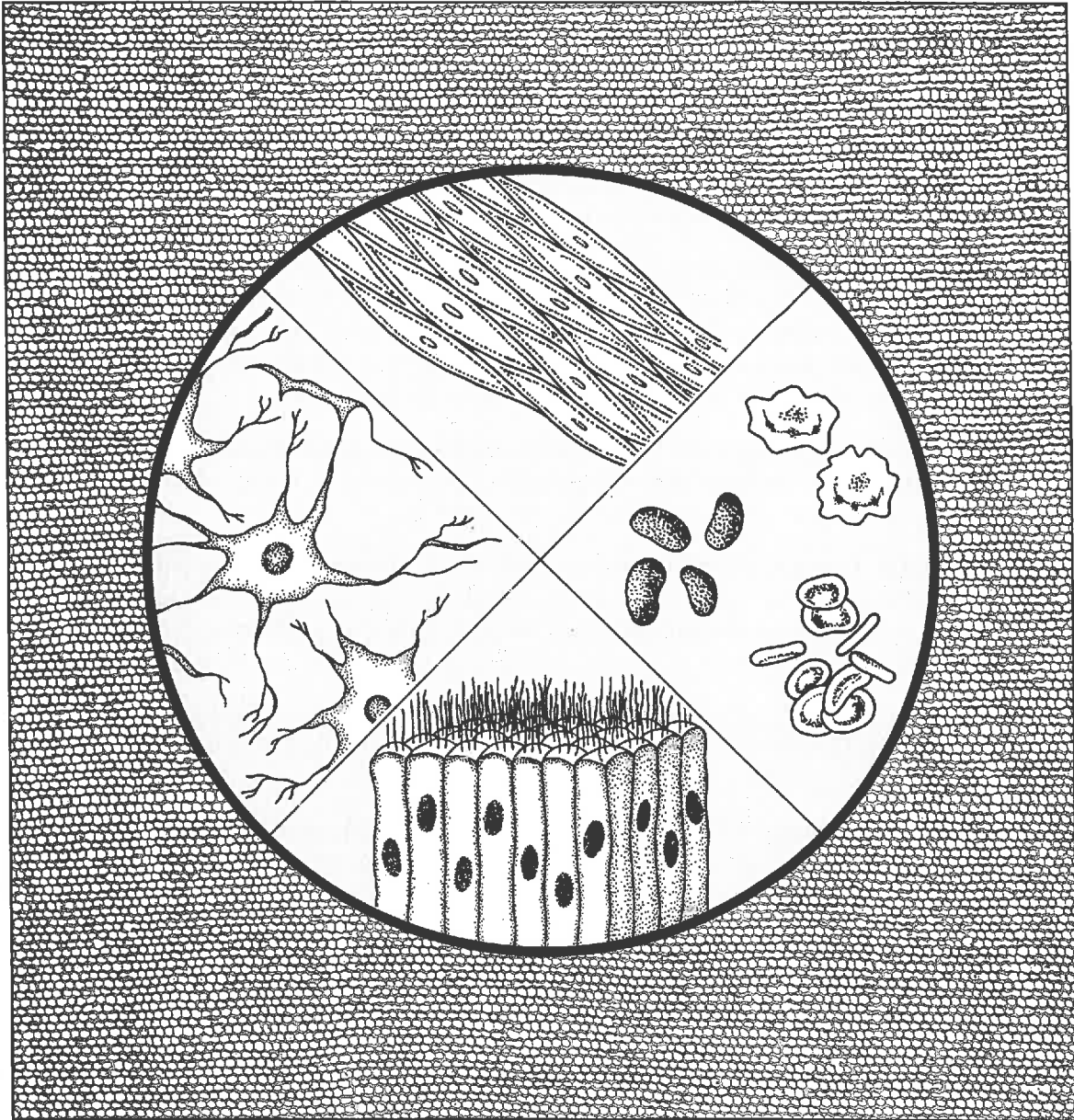


SUPPORT AND MOVEMENT

What are tissues and organs?

1



organs [OWR-gunz]: groups of tissues that join together to do a specific job

specialized [SPESH-uh-lyzed] **cells**: cells that are similar in size and shape

tissues: group of similar cells that work together to perform a specific function

LESSON

1

What are tissues and organs?

A car has many parts. Each part does a special job. All the parts must work together to keep the car running well.

In some ways, your body is like a car. Your body has many parts. These parts work together to keep you running well.

As you know, your body is made up of trillions of cells. These cells are alike in certain ways. But the cells are not all the same. They have different sizes and shapes. Different kinds of cells have different jobs. They are **specialized** [SPESH-uh-lyzed] **cells**. Specialized cells are similar in size and shape. The shapes of most cells help them to do their jobs.

The job of a specialized cell can be done only by that kind of cell. No other kind of cell can do that job. For example, only nerve cells can send and receive messages. Only muscle cells can make bones move.

TISSUES In many-celled organisms, cells work as teams, just like players on a baseball team. They form specialized groups of cells called **tissues**. A tissue is a group of similar cells that work together to perform a specific function.

Humans are made of four main kinds of tissues. They include epithelial [ep-uh-THEEL-ee-uhl] tissue, nerve tissue, connective tissue, and muscle tissue.

ORGANS Groups of cells that work together form tissues. Different tissues also "team up." Groups of tissues that join together to do a specific job are called **organs** [OWR-gunz].

Your body has many organs. Your heart is an organ. It pumps blood throughout your body. The heart is an organ of circulation. Your nose, windpipe, and lungs are organs, too. These organs are used for respiration. You also have sense organs. Sense organs tell you "what's happening," both inside your body and outside your body.

TISSUES AND ORGANS

Use what you have read so far to answer the questions below.

1. What combine to form tissues? _____
2. Name four kinds of tissue found in the human body. _____,
_____, _____, and _____.
3. What combine to form organs? _____

HUMAN TISSUES AND THEIR SPECIAL JOBS

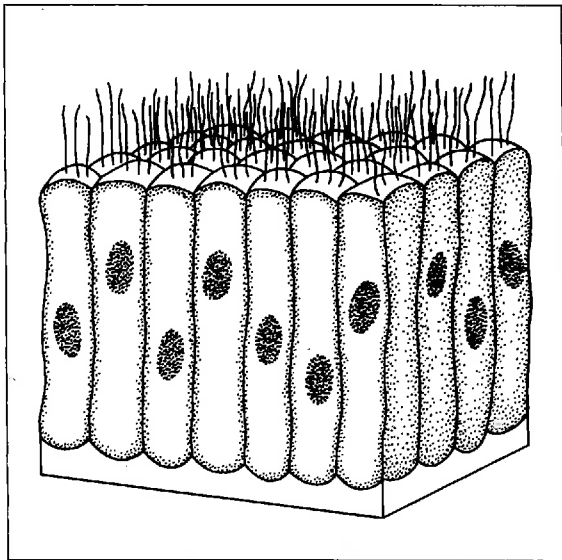


Figure A

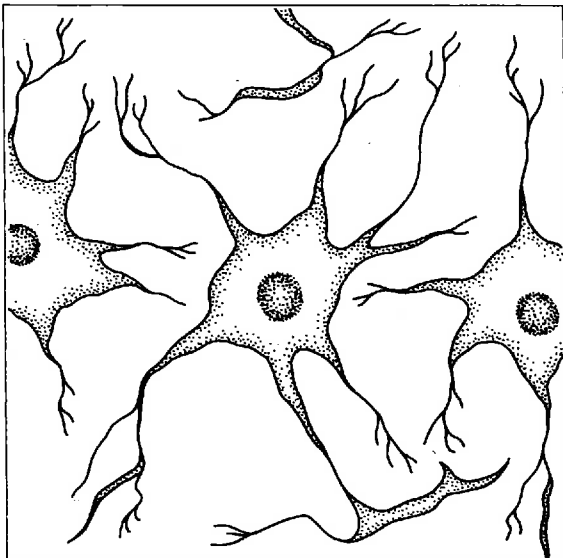


Figure B

EPITHELIAL TISSUE is covering tissue. It is made up of cells that are joined tightly together. Skin is made of epithelial tissue. Epithelial tissue covers organs both inside and outside your body. It helps keep out germs, and protects you from injury.

NERVE TISSUE is made up of nerve cells. It sends and receives messages. Nerve tissue allows us to respond to stimuli [STIM-yuh-ly], or changes in our surroundings. Nerve tissue responds to changes both inside and outside the body.

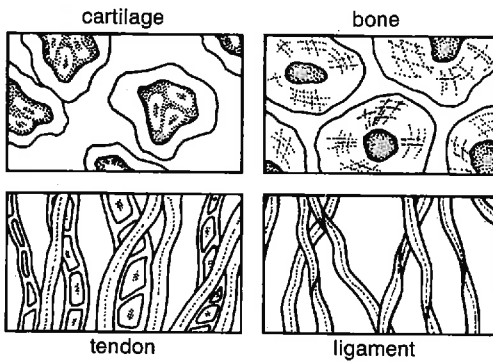


Figure C

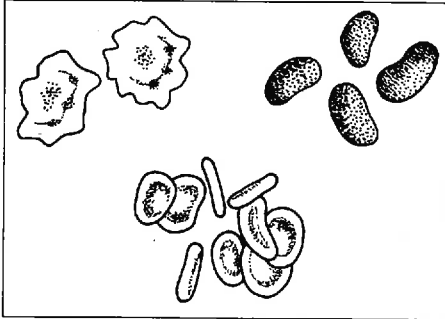


Figure D

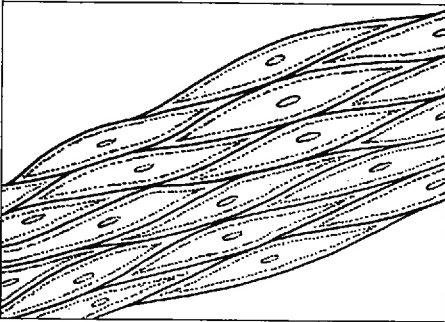


Figure E

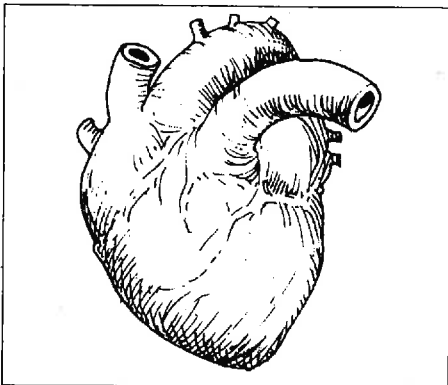


Figure F

CONNECTIVE TISSUE supports the body and holds it together. Connective tissue also helps to protect the body.

Bone, cartilage [KART-ul-idj], tendons, and ligaments [LIG-uh-ments], are all examples of connective tissue.

Blood also is a connective tissue. It is a liquid connective tissue. Blood carries oxygen, digested food, and important chemicals to all parts of the body. Blood tissue also carries away wastes.

MUSCLE TISSUE makes movement possible. Muscle tissue is made up of cells that can become shorter. There are different kinds of muscle tissue. One kind is attached to bones. When these muscles shorten, they pull on bones.

Your body has many organs. An organ is made mostly of just one kind of tissue. But an organ has other tissues, also. For example, your **HEART** is an organ. It pumps blood throughout your body. The heart is made mostly of muscle tissue. But it is also made of blood tissue, nerve tissue, and epithelial tissue.

SOME ORGANS OF THE HUMAN BODY

The chart below lists several organs and their jobs. It also lists some of the tissues that make up each organ.

ORGANS	JOB	TISSUES
HEART	pumps blood throughout the body	mostly muscle; also blood, nerve, and epithelial
STOMACH	digests food	muscle, nerve, blood, and other tissues
SKIN	covers and protects the body; helps get rid of salts, water, heat, and a small amount of urea	mostly epithelial; also blood, nerve, and other tissues
BRAIN and SPINAL CORD	the brain is the organ of thinking; the brain and spinal cord send and receive messages	mostly nerve; also blood, connective, and other tissues
EARS, EYES, NOSE, TONGUE, and SKIN	sense organs; tell what is happening around you	nerve, muscle, blood, and other tissues

WHAT DO THE PICTURES SHOW?

Use the information in the chart above to answer the questions about the pictures below.

The two organs shown here are made mostly of nerve tissue.

1. What is the name of organ A?

2. What is the name of organ B?

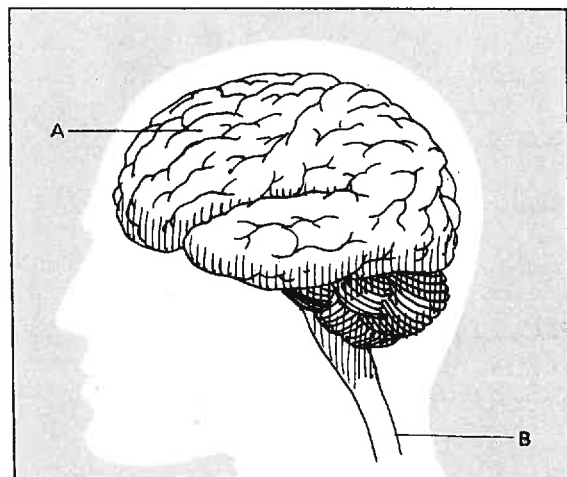


Figure G

Your skin is the largest organ in your body. Sweat glands in the skin get rid of waste products.

3. What are two jobs of the skin?

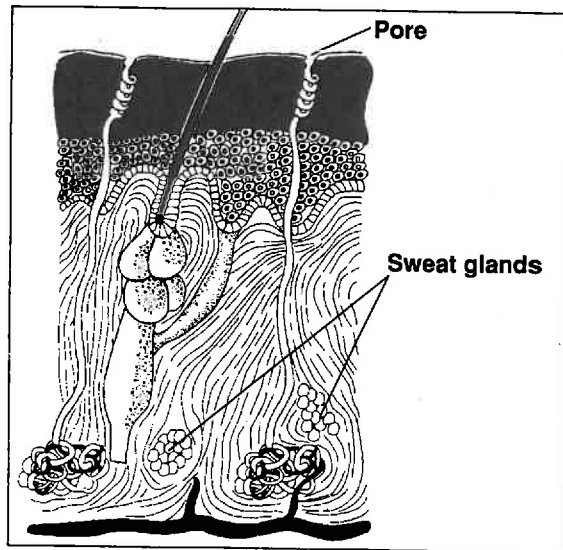


Figure H

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

Column A	Column B
_____ 1. blood	a) pumps blood
_____ 2. connective tissue	b) covering tissue
_____ 3. epithelial tissues	c) made mostly of nerve tissue
_____ 4. stimuli	d) carries oxygen and food to cells
_____ 5. sense organs	e) produces movement
_____ 6. muscle tissue	f) bone, tendons, ligaments, and cartilage
_____ 7. brain and spinal cord	g) organ of digestion
_____ 8. stomach	h) ears, eyes, nose, skin, and tongue
_____ 9. lungs	i) organs of respiration
<u> a </u> 10. heart	j) changes in our surroundings