




## 7.5.c

Students know how bones and muscles work together to provide a structural framework for movement.

We will concentrate on the skeletal system first.

An anatomical illustration of the human skeletal and muscular systems. The skeleton is shown in a light, semi-transparent yellowish color, highlighting the ribcage, spine, and pelvic/shoulder girdles. The muscular system is shown in a realistic orange-brown color, with a focus on the right arm and shoulder. The background is solid black.

# The Skeletal and Muscular Systems

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**The function  
(purpose) of the  
system.**



**Structures (parts)  
of the system**

## **The Skeletal System**

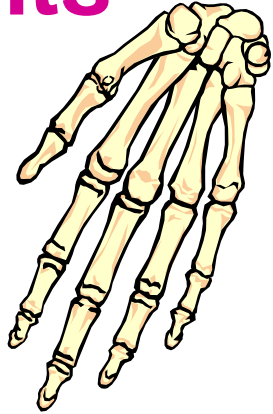
- Shape and support**
- Allows you to move**
- Protects your organs,**
- Produces blood cells**
- Stores minerals – calcium and phosphorus**

### **Do a timed pair share**

- joints, ligaments, cartilage, and bone**



# joints



## Types of joints


**\*joints are places where two bones come together.**

**\*they allow you to move**

**Immovable joint – joints found in the skull**

**Movable joints**

- a. hinge joint - knee and elbow,
- b. ball & socket - shoulder & hip
- c. pivot joint – neck
- d. sliding joint; wrist and ankle



You will be working with your elbow partner to answer the questions.

1. What are the functions (purpose) of skeletal system?

a. Shape and support

d. Produces blood cells

b. Allows you to move

e. Stores minerals

c. Protects your organs

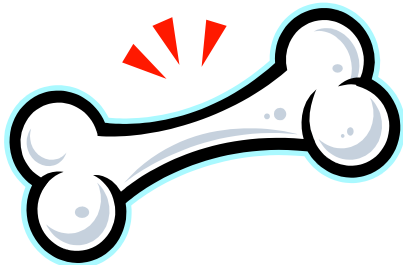
2. Name the structures of the skeletal system?

Joints, ligaments, cartilage, and bone

**ligaments**

**cartilage**

**bone**



**connective tissue that connects bone to bone**

**\*connective tissue that is flexible and slippery**

**\*covers the end of bones**

**\*turns into bone as you grow**

**\*cushions your bones**

**\*remains as cartilage**

**Compact bone – hard and dense; but not solid; small blood vessels and nerves run through it.**

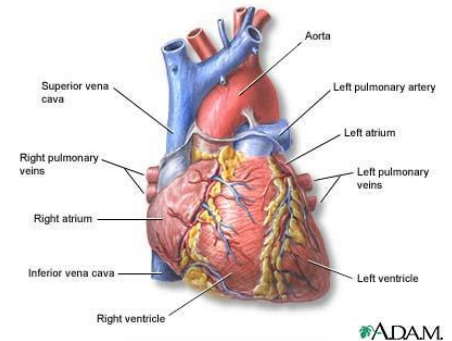
## Spongy bone

- \*Has many small spaces; the tissue is light weight
- \*Contains marrow a connective tissue
- \*Red marrow produces blood cells
- \*Yellow marrow stores fat.

## Working with other systems

\*Works with the cardiovascular to make new blood cells.

\*Works with the muscular system to allow movement



Working with your elbow partner, answer these two questions. Start with the partner who has the longest hair. You will have 2 minutes.

1. What does cartilage do?

a. it is a slippery surface

d. turns into bone

b. cushions bone

e. remains as cartilage

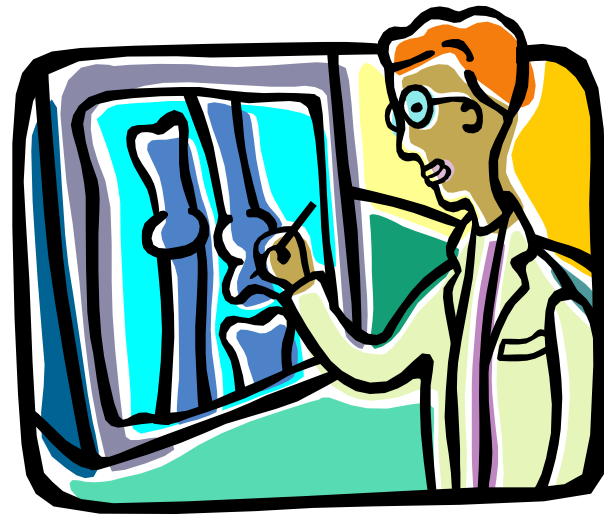
c. at the end of bones

2. Explain why ligaments are important?

Ligaments are important because they connect bone to bone.

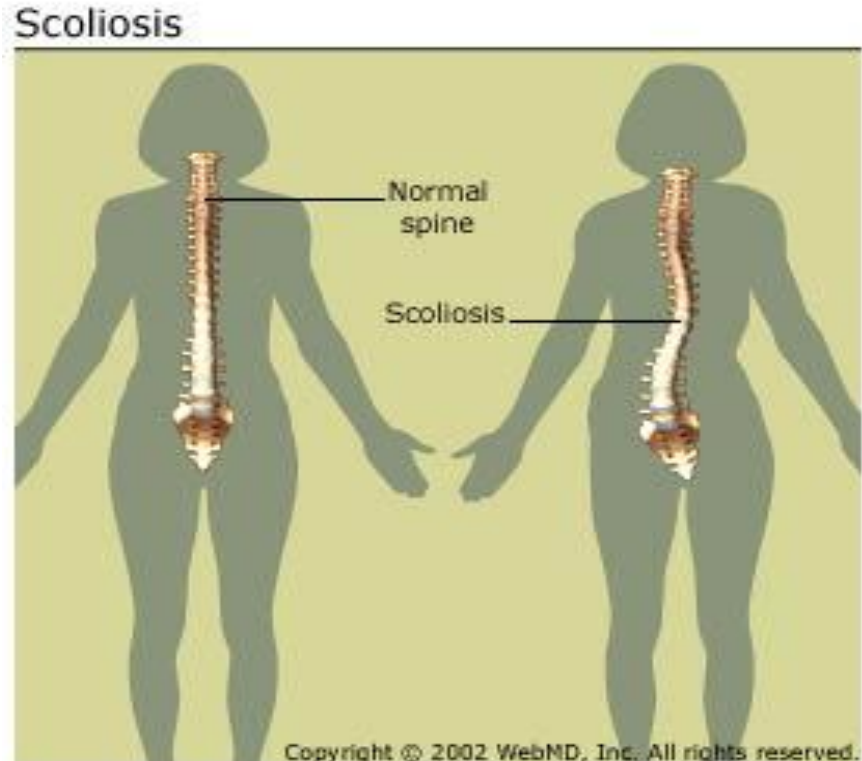
## Diseases of the system

**Osteoporosis** – bones  
become weak due to the  
loss of calcium and  
phosphorus.



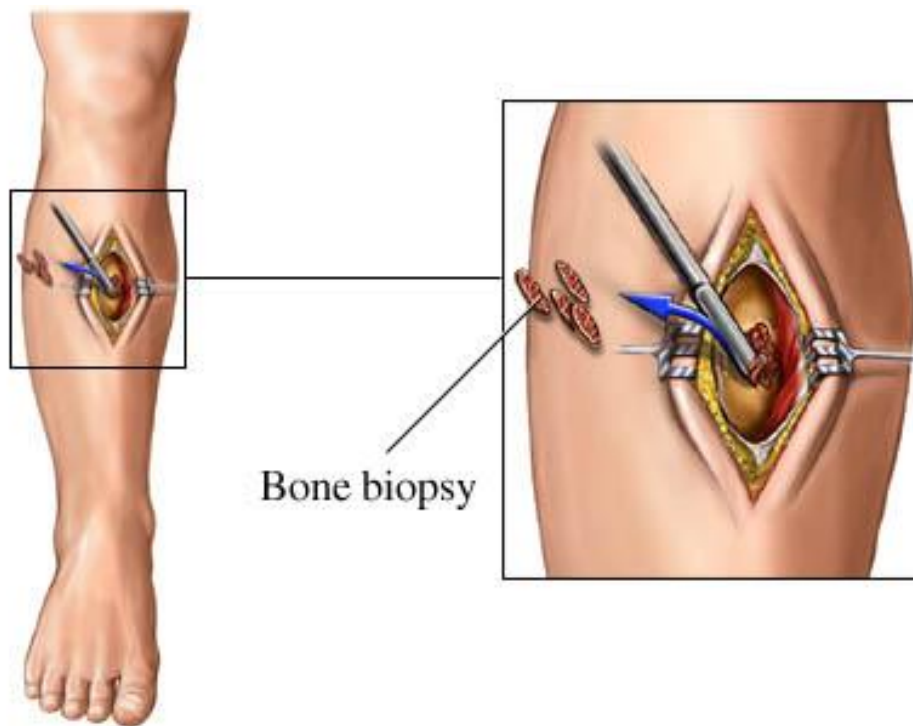
## Diseases continued

**Scoliosis** – is a lateral (sideways) curve of the spine. If the curve is greater than  $40^{\circ}$ , surgery may be required.



## Diseases continued

**Osteosarcoma** – cancer cells found  
in the bone; usually around the knee



# Bone Flash Cards:

Make one  
flash card as  
shown to the  
right.

What are the FIVE purposes of the Skeletal System?	What are the four different STRUCTURES of the Skeletal System?
<b>IMMOVABLE JOINT</b>	<b>MOVABLE JOINT</b> (Four types)
LIGAMENTS	CARTILAGE
<b>COMPACT BONE</b>	<b>SPONGY BONE</b>
How does the Skeletal System work with other systems?	Disease: <b>Osteoporosis</b>
Disease: <b>Scoliosis</b>	Disease: <b>Osteosarcoma</b>