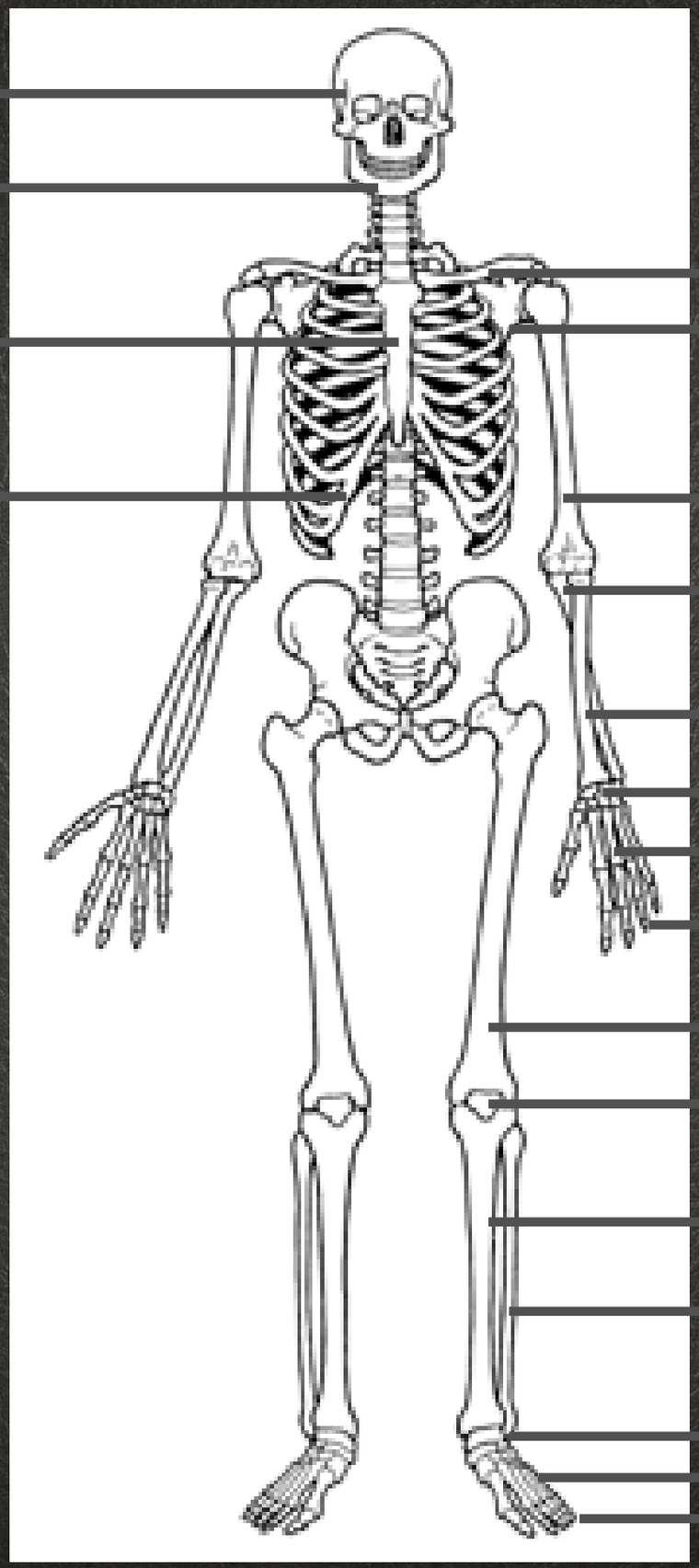
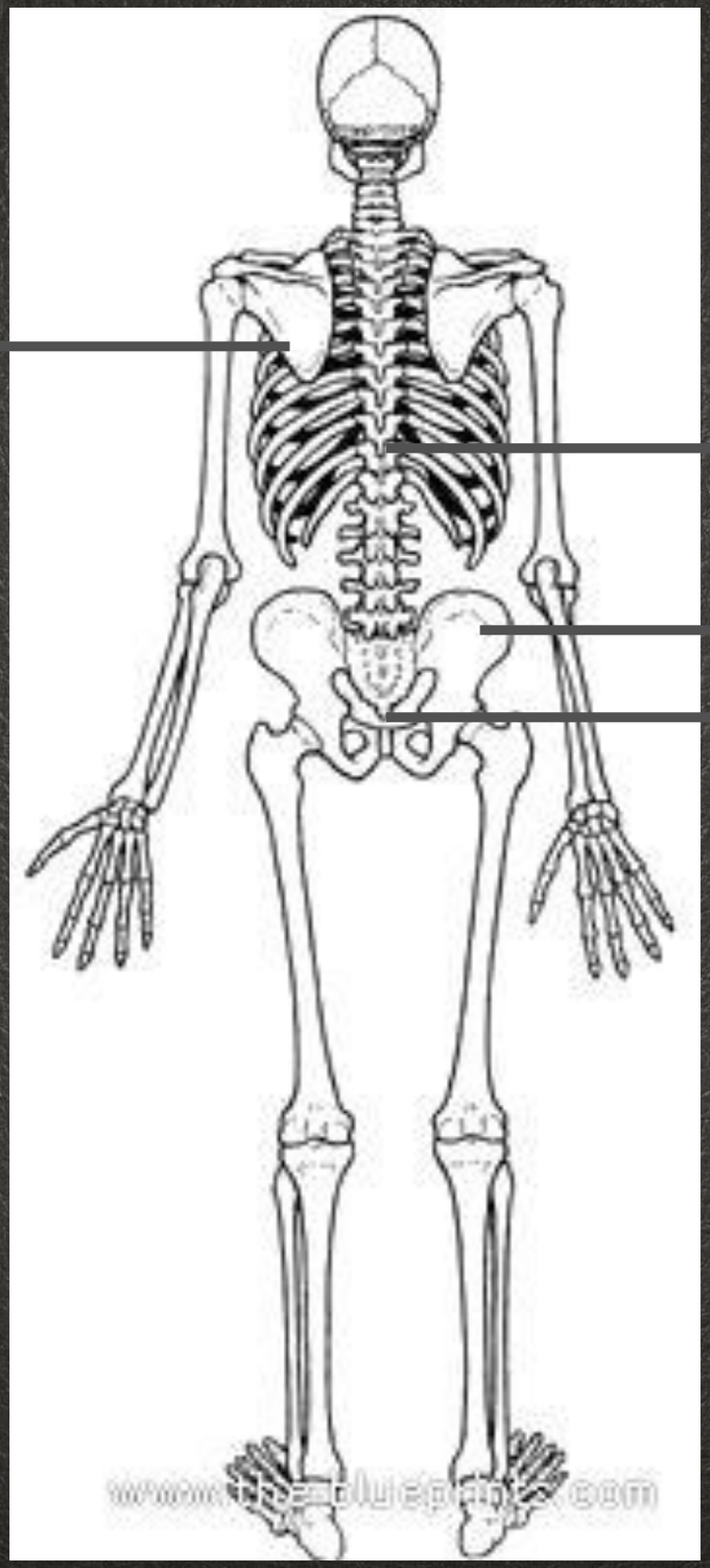
SKELETAL SYSTEM

ANTERIOR VIEW



Cranium
Mandible
Sternum
Ribs
Clavicle
Scapula
Humerus
Ulna
Radius
Carpals
Metacarpals
Phalanges
Femur
Patella
Tibia
Fibula
Tarsals
Metatarsals
Phalanges

POSTERIOR VIEW



FUNCTIONS OF THE BONES

There are 206 bones in a 'normal' adult skeleton

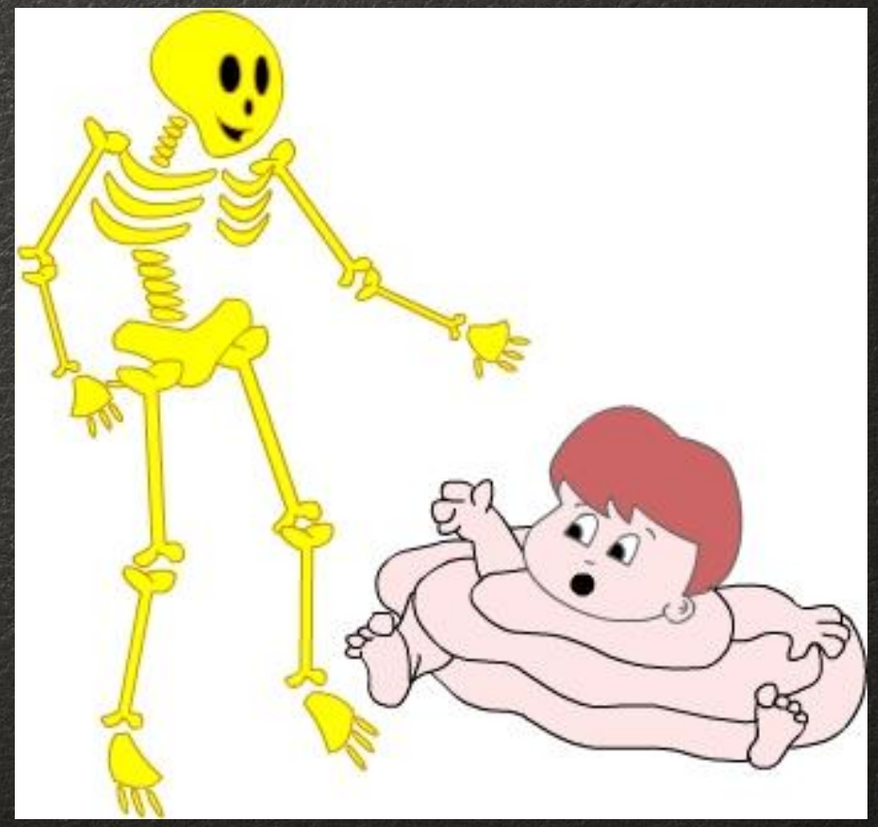
1. SUPPORT - is provided for soft tissues. The skeleton provides the framework for our body shape.

2. PROTECTION - for our vital organs eg our skull protects the brain and our ribs protect the lungs.

3. MOVEMENT - Our bones act as leavers when the muscles work in pairs.

4. BLOOD CELLS - production of red blood cells, predominantly found in the marrow of long bones.

5. STORAGE OF MINERALS - bones store calcium, phosphorus, small amounts of magnesium and sodium.



TYPES OF BONES

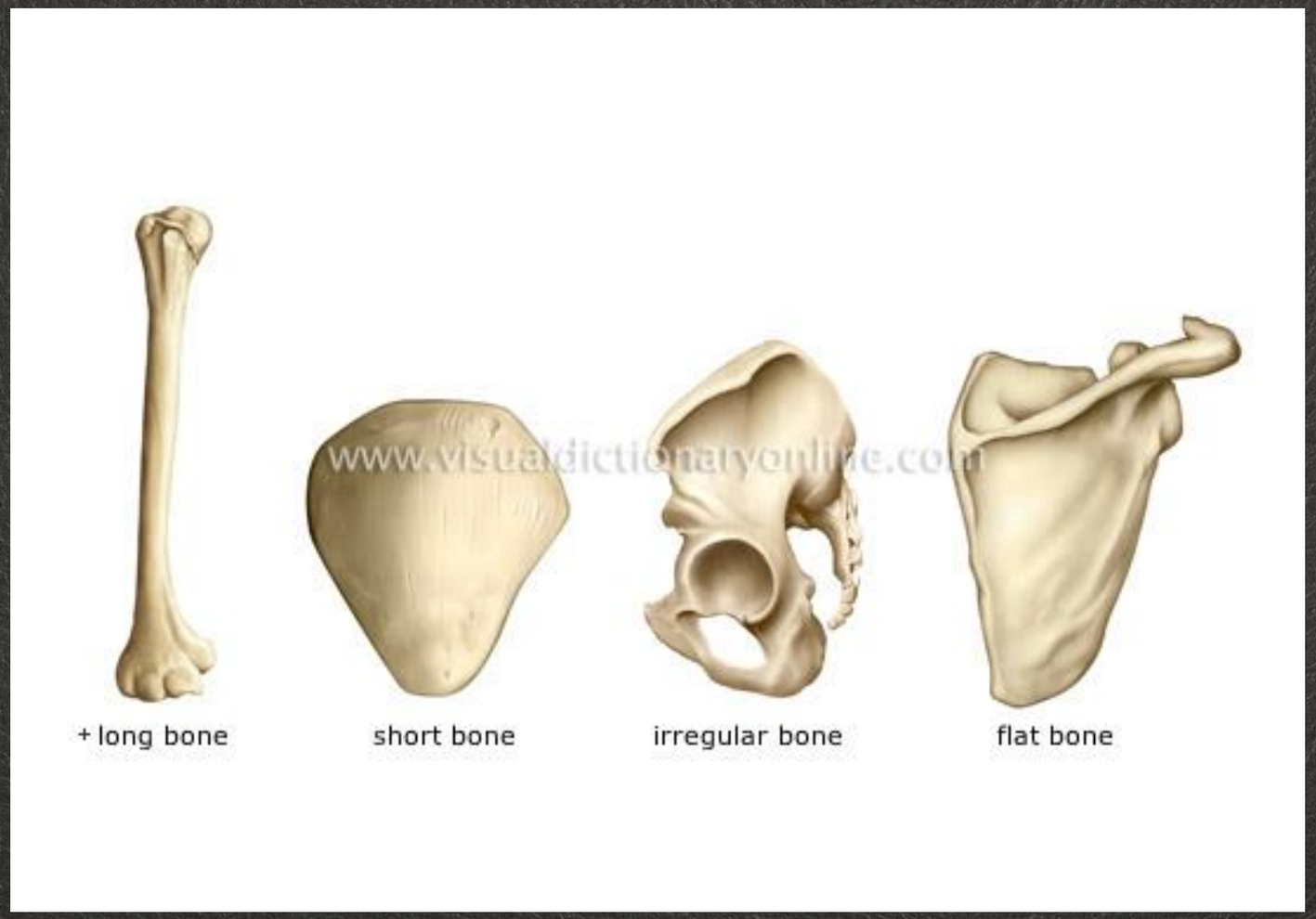
LONG BONE - light weight for movement eg femur, humerus

SHORT BONE - rounded and used for partial movement eg carpals, tarsals

FLAT BONE - broad and smooth for protection eg skull, sternum etc

IRREGULAR BONE - different shapes with special functions eg vertebrae, pelvis

You tube: "The Skeletal System "
50 sec mark – 5 minute mark only



My Bones Rap – IT'S AWFUL : "The skeletal system"

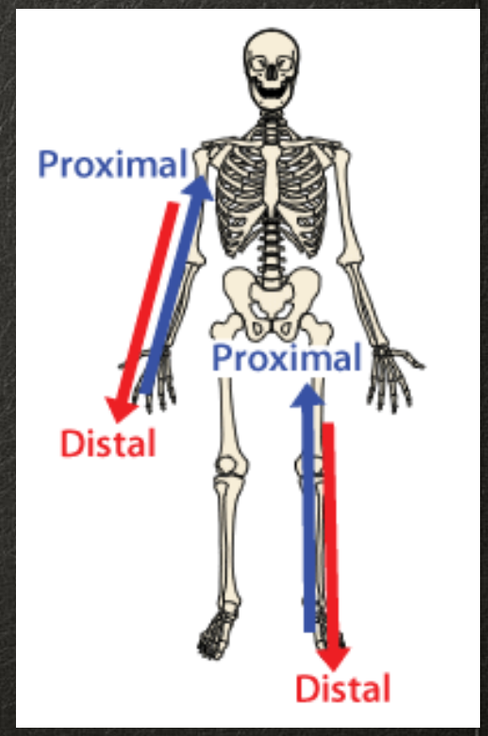
Anatomical words for the skeleton

SUPERIOR - on top or above something

INFERIOR - at the bottom or below something

PROXIMAL - close to the midsection of the body

DISTAL - away from the midsection of the body



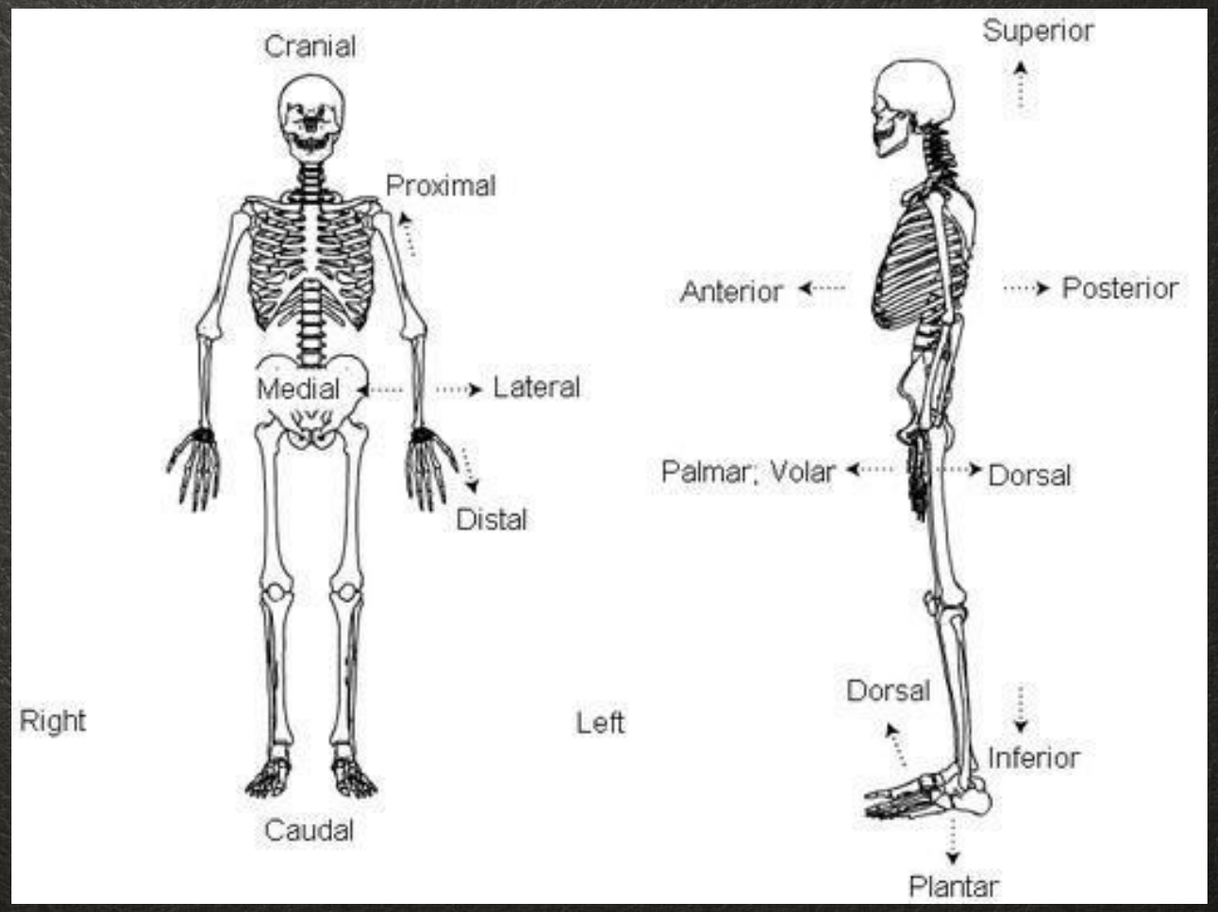
ANTERIOR - front side of body

POSTERIOR - back side of body

LATERAL - outside of body

MEDIAL - close to midline

Worksheet
Anatomical map of skeleton



Re-cap bones

You tube: "Spine anatomy" 1:44sec

Vertebrae and vertebral column

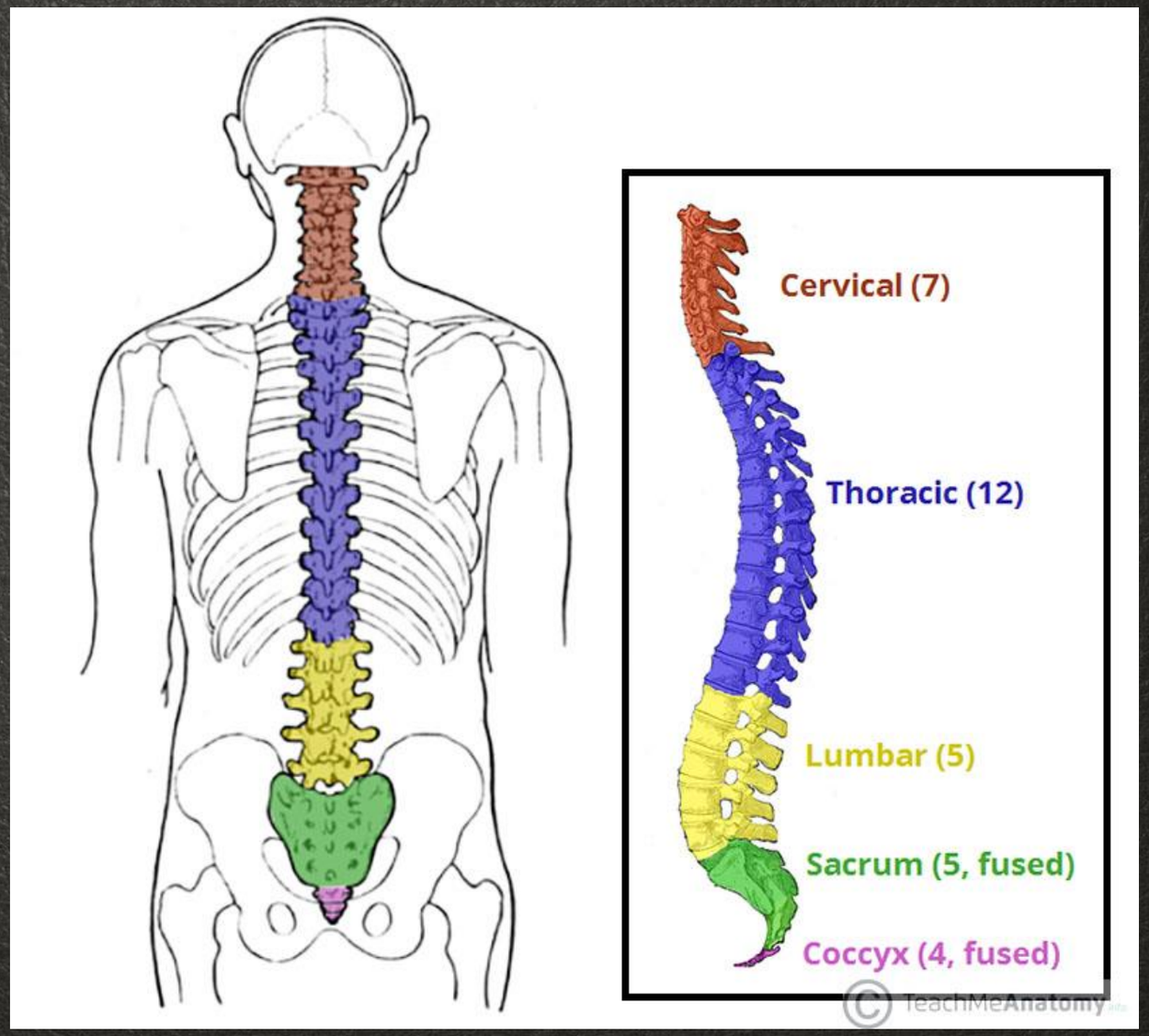
Cervical - 7

Thoracic - 12

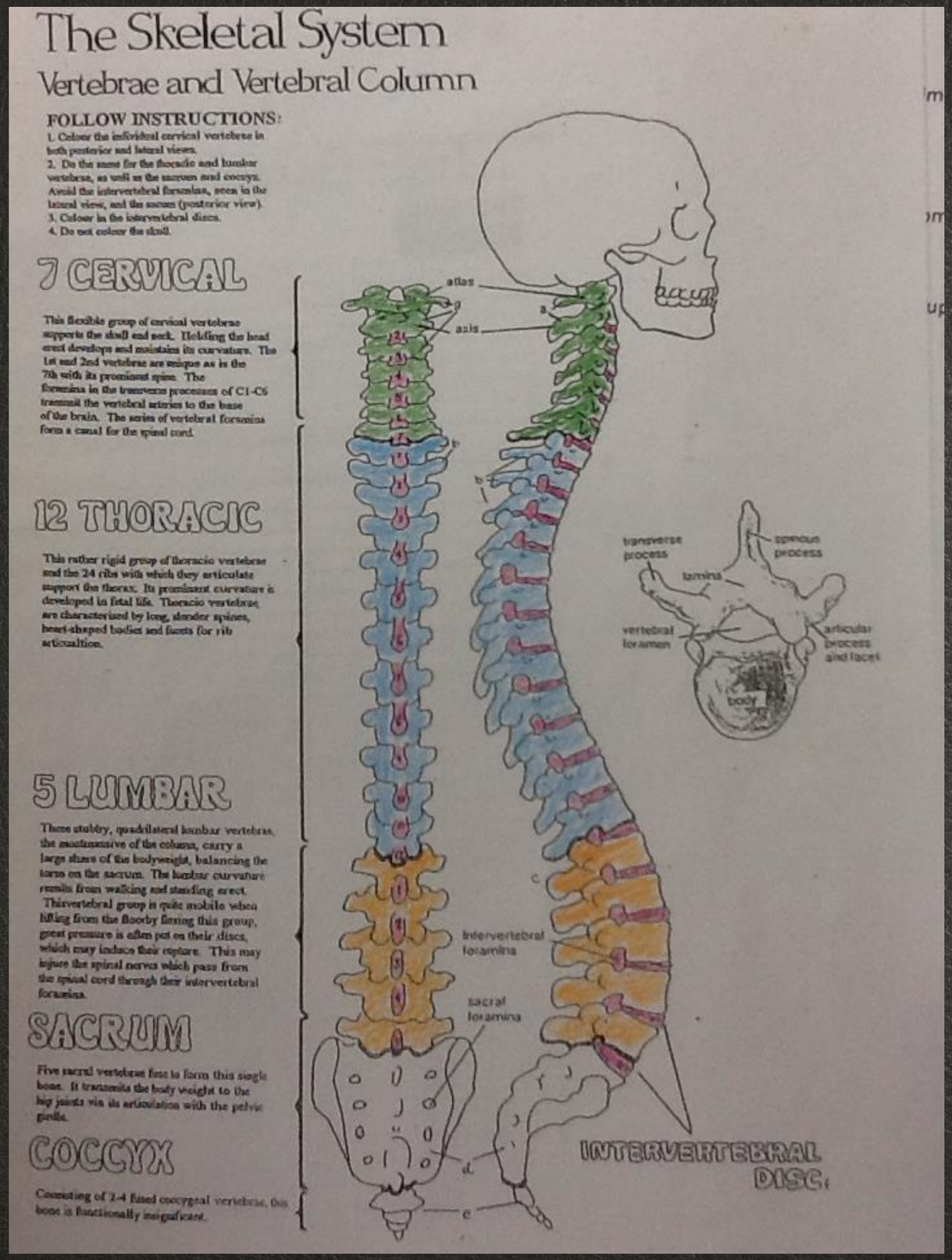
Lumbar - 5

Sacrum - 5

Coccyx - 4



Worksheet - colour in diagram of vertebrae



You tube: "[Cervical spine anatomy]"
3:10sec

You tube: "Cervical spine" 1:43sec

Spinal Discs (*Intervertebral discs*)

The intervertebral disc in the spine is an interesting and unique structure. Its primary purpose is to act as a shock absorber between adjacent vertebrae.

Spinal discs also act as ligaments that hold the vertebrae of the spine together and as cartilaginous joints that allow for slight mobility in the spine.

There are a total of twenty-three vertebral discs in the spinal column

Components of Intervertebral discs

Discs are composed of two parts including a tough outer portion called (Nucleus Pulposus) and soft inner core called (Annulus Fibrosus)

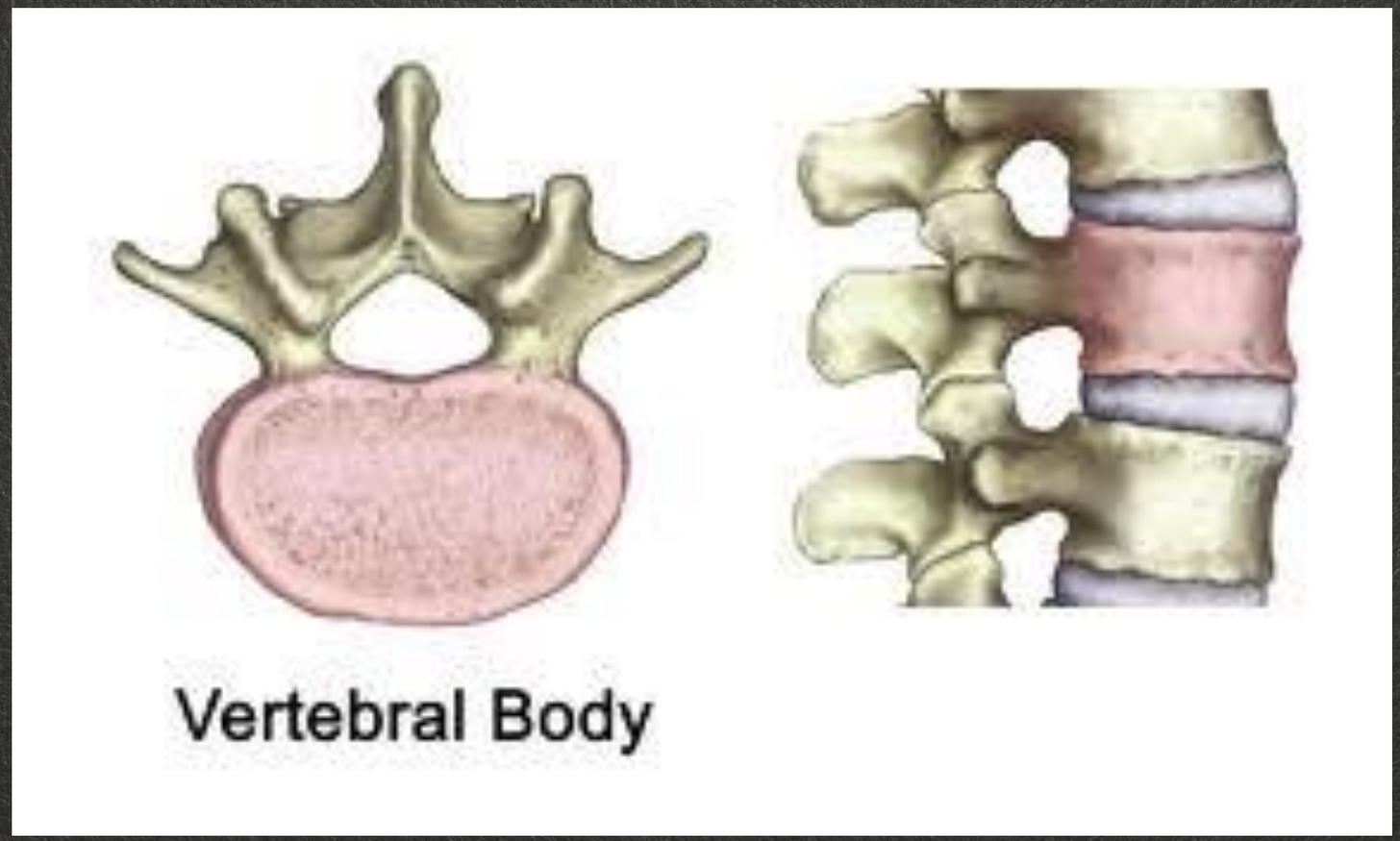
Disc Degeneration

Over time, spinal discs dehydrate and become stiffer, causing the disc to be less able to adjust to compression. While this is a natural aging process, as the disc degenerates in some individuals, it can become painful. Sometimes a twisting injury damages the disc and starts a cascade of events that leads to degeneration.

The spinal disc itself has very few nerve endings and no blood supply. Without a blood supply the disc does not have a way to repair itself, and pain created by the damaged disc can last for years.

You tube: "Spine or vertebral column" start from 2:50sec

Crossword worksheet - Bones of your body



Spinal Cord Injury

A spinal cord injury (SCI) is generally defined as damage or trauma to the spinal cord that results in a loss or impaired function.

Common causes of damage to the spinal cord include trauma such as (car/motorcycle accidents, gunshot, falls, sports injuries), or disease (e.g. Spina Bifida). The resulting damage to the spinal cord is known as a lesion, and the paralysis is known as **quadriplegia** if the injury is in the **cervical** (neck) region, or as **paraplegia** if the injury is in the **thoracic**, lumbar or sacral region.

It is possible for someone to suffer a broken neck, or a broken back without becoming paralysed. This occurs when there is a fracture or dislocation of the vertebrae, but the spinal cord has not been damaged. Sometimes minor swelling of the spinal cord will result in temporary paralysis, which can be recovered from after several weeks or months.

FRACTURES

FRACTURES

A broken bone or bone fracture occurs when a force exerted against a bone is stronger than the bone can bear. This disturbs the structure and strength of the bone, and leads to pain, loss of function and sometimes bleeding and injury around the site.

There are different types of bone fractures. Some are more severe than others, depending on the strength and direction of the force, the particular bone involved, and the person's age and general health. Common bone fractures include the wrist, ankle and hip. Hip fractures occur most often in older people. Broken bones take around four to eight weeks to heal, depending on the age and health of the person and the type of break

Most common types of fractures include;

A **Simple** fracture – the broken bone has not pierced the skin

Open (**compound**) fracture – the broken bone juts out through the skin, or a wound leads to the fracture site. Infection and external bleeding are more likely

Greenstick fracture – a small, slender crack in the bone. This can occur in children, because their bones are more flexible that an adult's bones

Hairline fracture – the most common form is a stress fracture, often occurring in the foot or lower leg as a result of repeated stress from activities such as jogging or running

You tube: "Bone fractures" 1:56sec

WEEK 7
REVISION FOR TEST

C+ sound knowledge
All bones
How many bones in 'normal' adult skeleton
Functions of bones
Types of bones
Anatomical words
Vertebrae sections

A's and B's
More in depth questions of above
Spinal discs
Fractures