

Unit 2: Tissues

Lesson 10 : Bone- Key

Activity 1 (15'): Introduction to bone tissue

Watch the following video <https://www.youtube.com/watch?v=-67ImpqAaUA#t=88.738269>, then in pairs answer the following questions:

- 1) What are the functions of bone tissue?
Bones perform several functions: protection (brain case, rib cage and spinal cord), support of the internal organs and all the body, movement, mineral storage (e.g calcium) and blood cell formation
- 2) How many bones are in the human body?
An adult has 206 bones of different shape and size. A new baby has around 300 bones, that fuse when they grow.
- 3) Classify the different shapes of bones
Long (femur), short (wrist), flat(skull), irregular (vertebrae)
- 4) What are bones made of?
Compact bone, spongy bone and marrow
- 5) What are the two divisions of skeletal system?
Axial skeleton forms the vertical, central axis of the body and the appendicular skeleton includes all bones of the upper and lower limbs, plus the bones that attach each limb to the axial skeleton

Activity 2 (15'): Factors that increase the blood calcium levels

Fill in activity

- Calcium and phosphate ions in skeleton are lost in urine
- Ions must be replaced to maintain homeostasis
- If not obtained from diet, ions are removed from the bones , weakening bones
- Exercise and nutrition keep bones strong

Activity 3 (20'): Compact bone

Step 1: Watch the following video <https://www.youtube.com/watch?v=q4vXr9IuPVC>, then in pairs label the following image using the words below

- A: epiphysis
- B: diaphysis
- C: articular cartilage
- D: periosteum
- E: medullary cavity (yellow marrow)
- F: compact bone
- G: endosteum
- H: spongy bone
- I: red bone marrow

Step 2: In pairs, match each letter with the correct function (eg: f5)

A 2 B 3 C 4 D 1