

PRACTICAL HISTOLOGY
LAB.5

Bone

Bone is a strong, flexible and semi-rigid supporting tissue. It can withstand compression forces, and yet it can bend. Like cartilage, and other types of connective tissue, bone is made up of Cells and Extracellular matrix:

Cells - which in bone are called osteoblasts and osteocytes, (osteo - bone). There are also two other cell types: osteoprogenitor cells and osteoclasts.

What is bone for?

Support - bones make up a structural framework for the .1 body, and provide attachment sites for muscles.

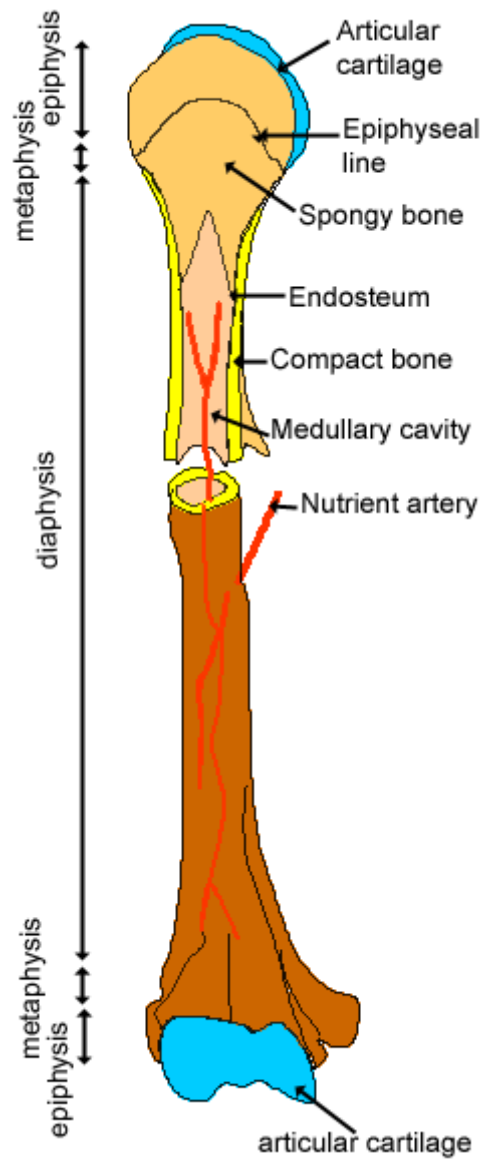
Protection - protection of internal organs - i.e. brain, heart .2 and lungs,

Assisting movement. .3

Mineral homeostasis - the bone is a store for calcium and .4 phosphorus

Blood cell production - takes place in the bone marrow. .5

Types of bone:



There are two types of mature bone:

1. Compact - which is found in the shafts of long bones (in the diaphyses). This makes up 80% of all bone.

2. Spongy (cancellous) bone - which is found at the ends of long bones (in the epiphysis). This makes up 20% of all bone. This type of bone contains red bone marrow and a network of bony trabeculae.

A '**periosteum**' is found on the outside of bone. This is a dense fibrous layer, where muscles insert. It contains bone forming cells. It is not found in the regions of bone covered by articular cartilage.

The **endosteum** is the name given to the tissue that lines the inner surfaces of bones.