

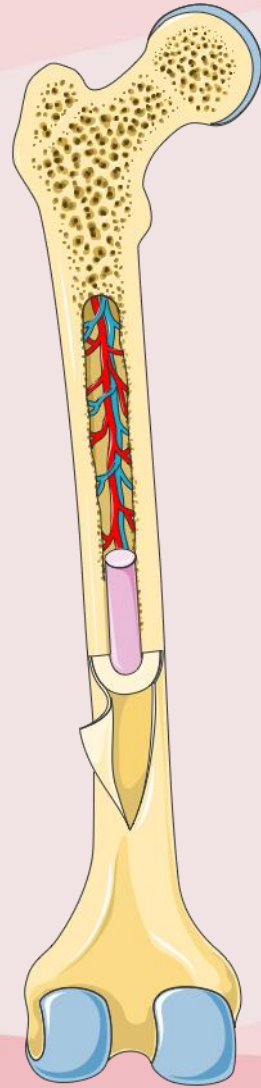


# smart

SERVIER MEDICAL ART

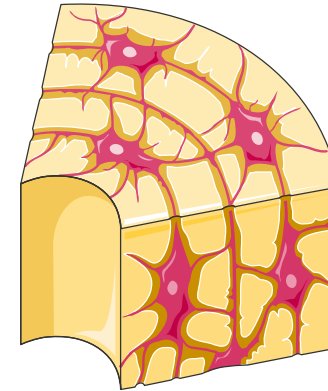
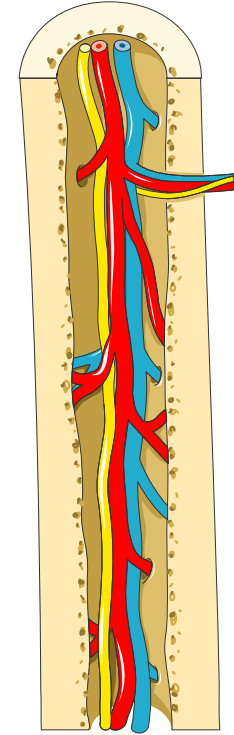
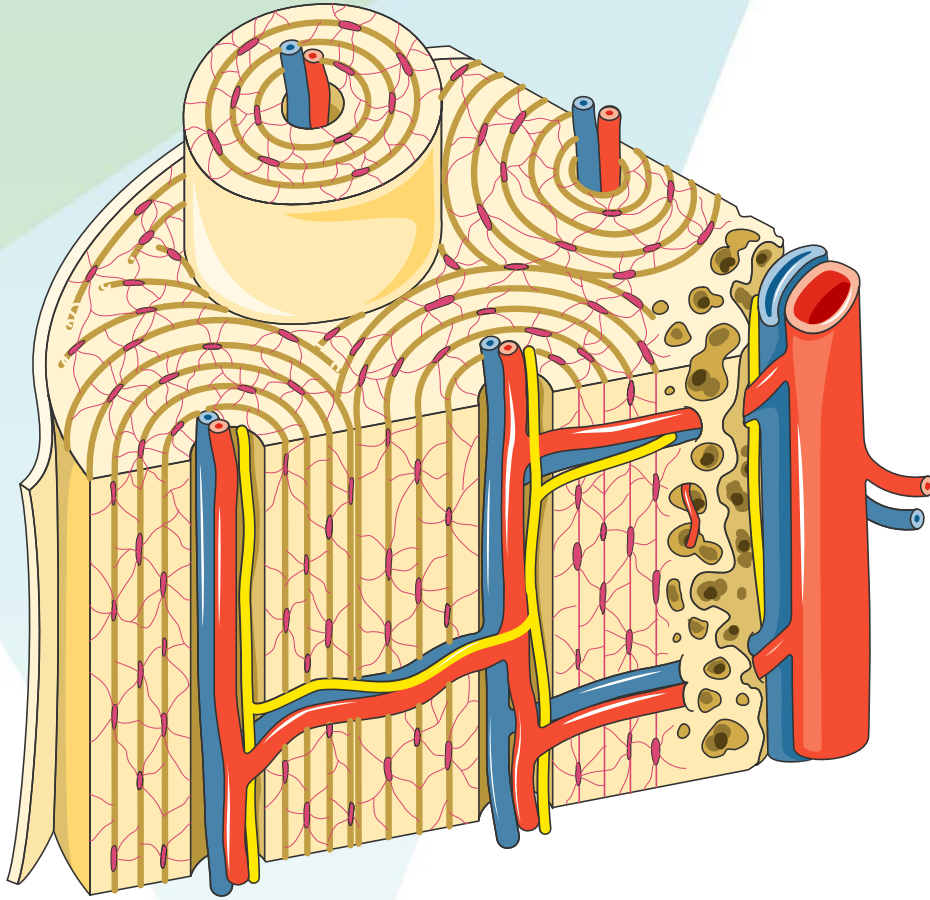
A service provided to medicine by



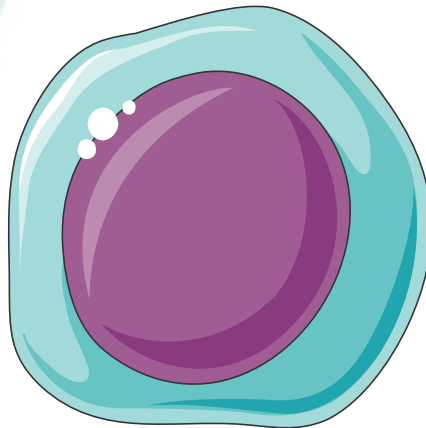
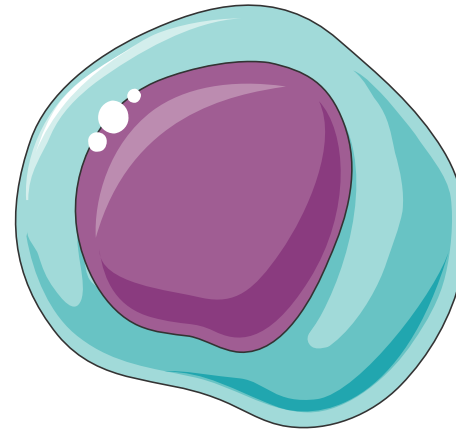
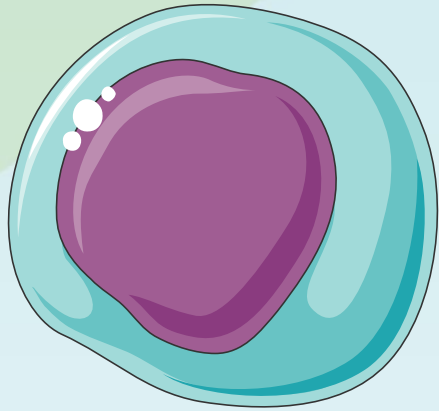


# Bone structure

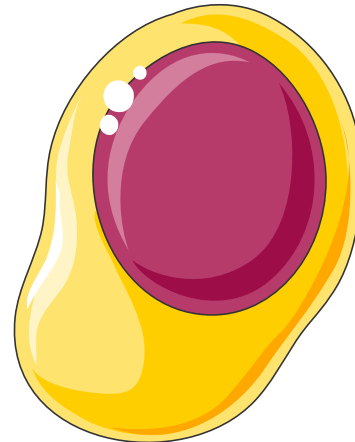
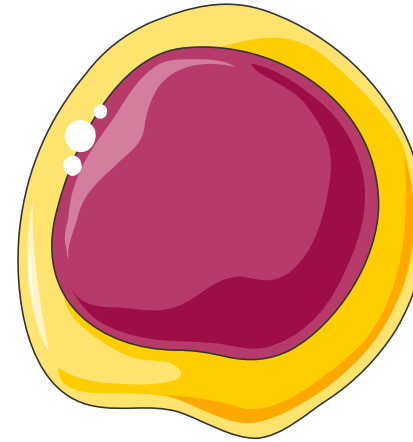
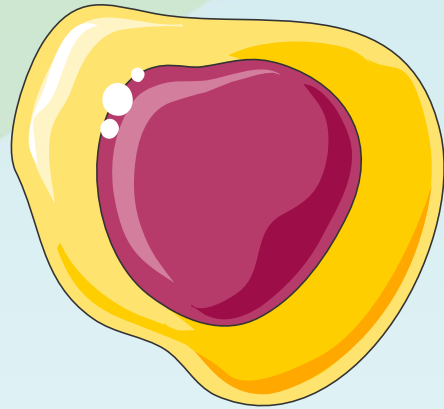
# Osteon



# Stem cells



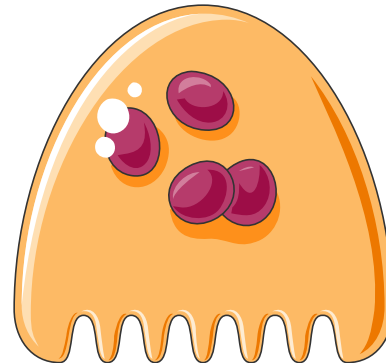
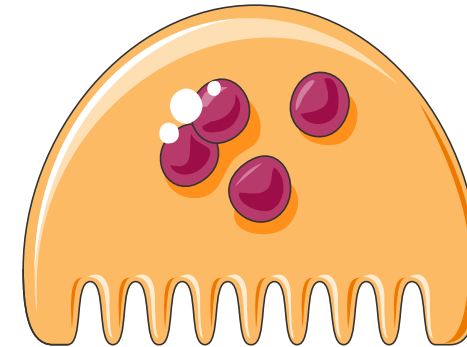
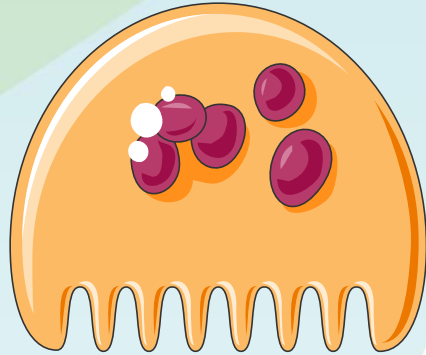
# Osteoclast progenitors



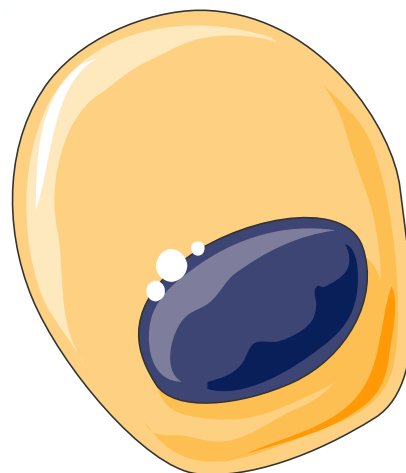
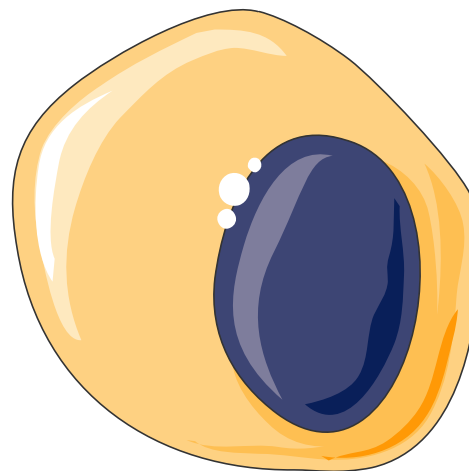
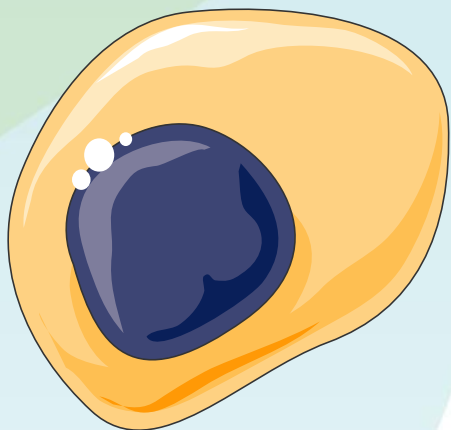
# Osteoclast precursors



# Osteoclasts

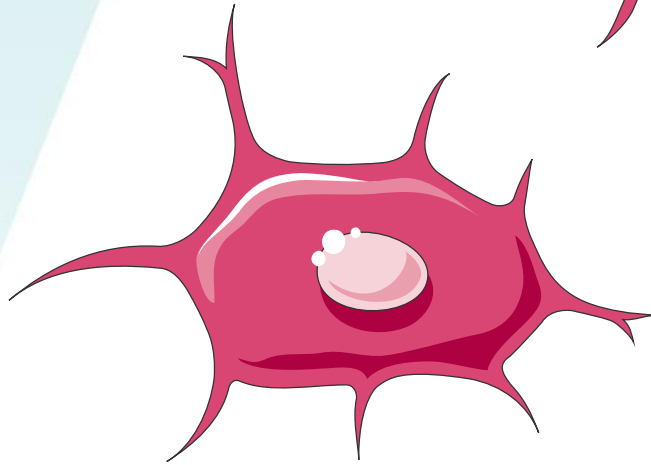
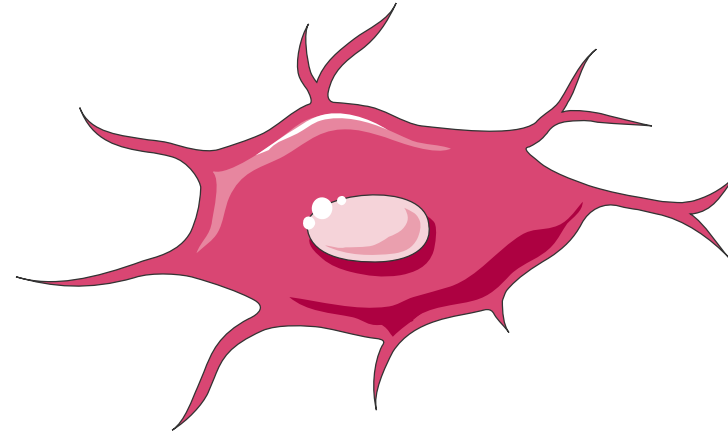
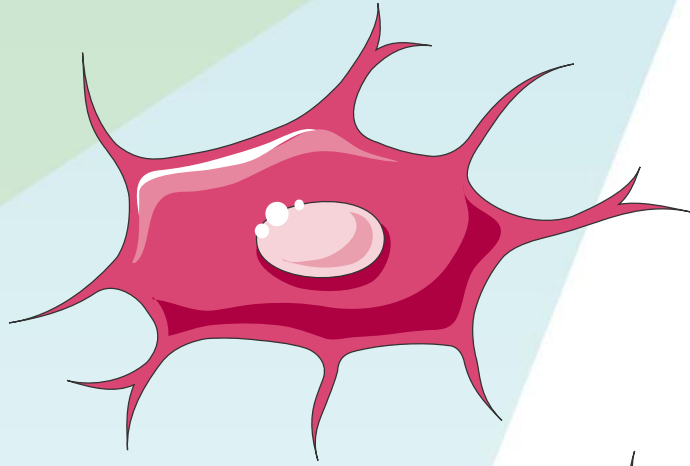


# Osteoblasts

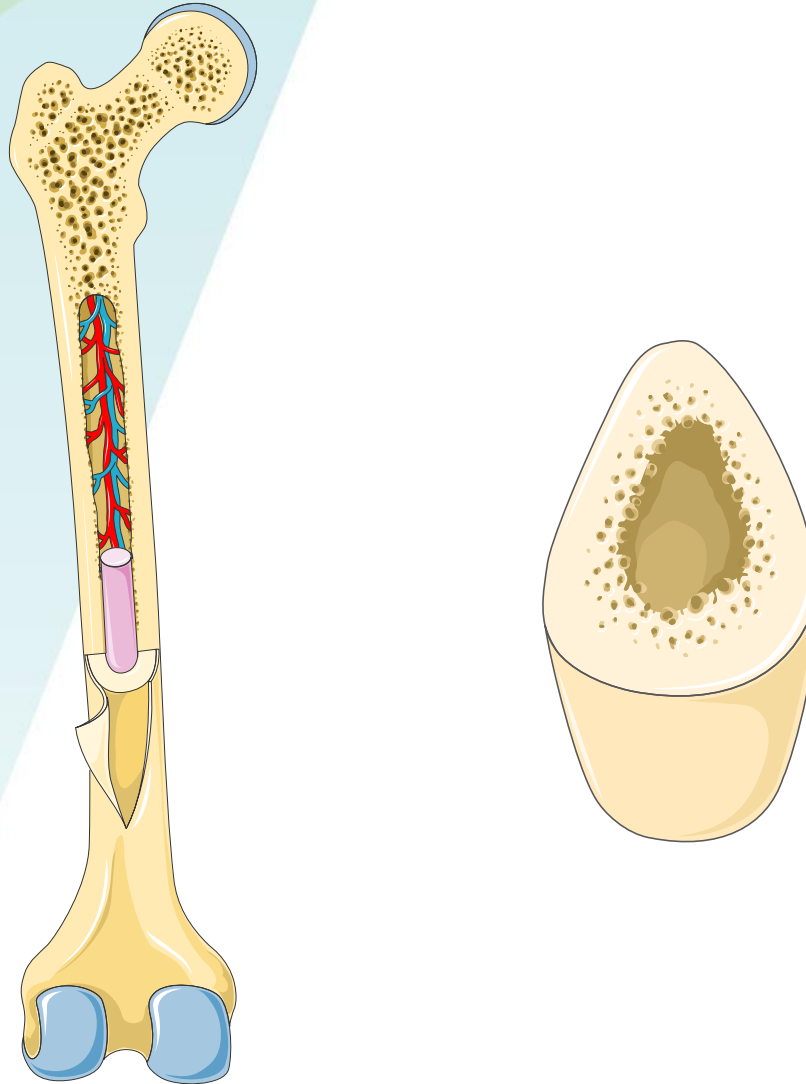




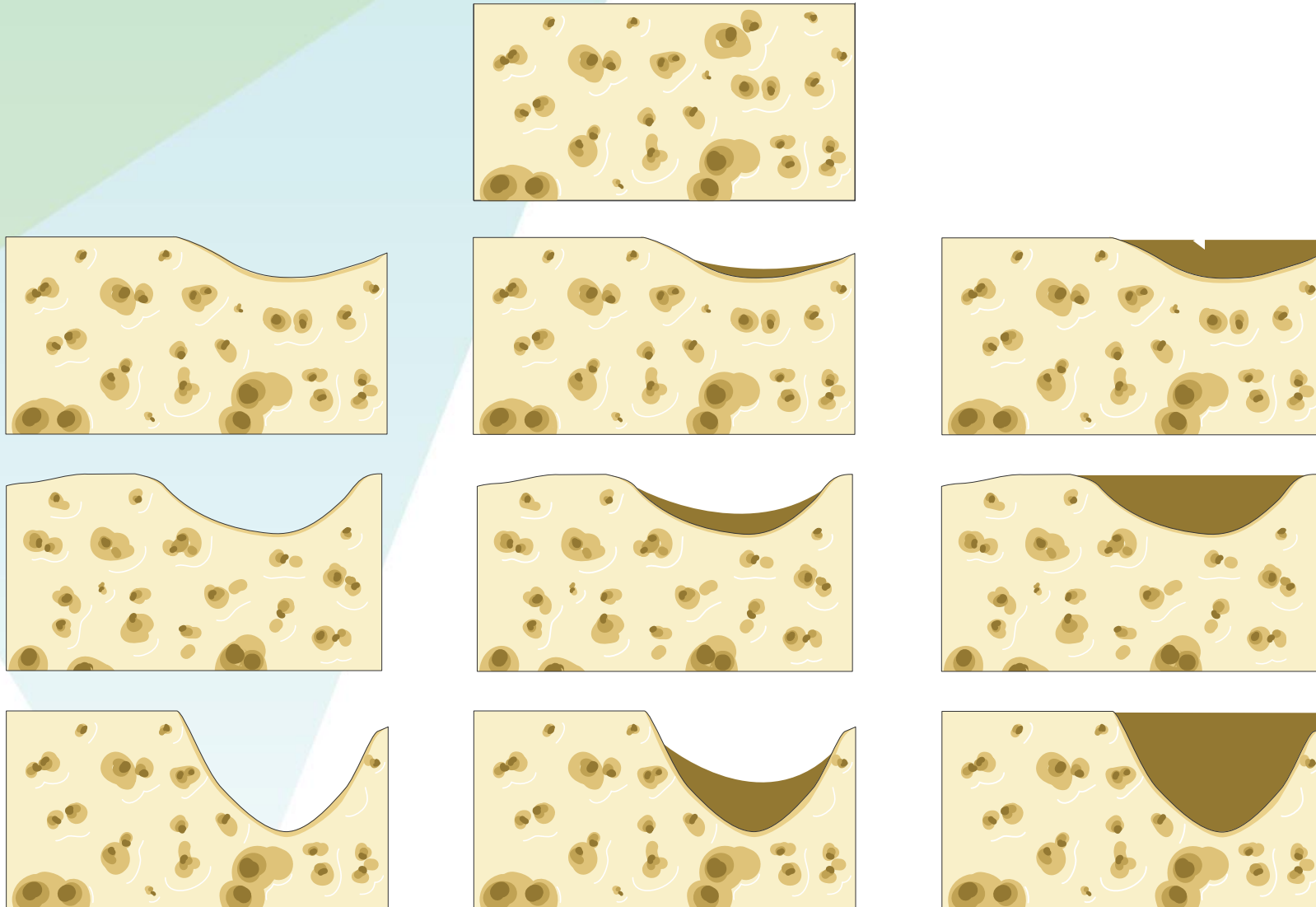
# Osteocytes



# Bone structure (1)

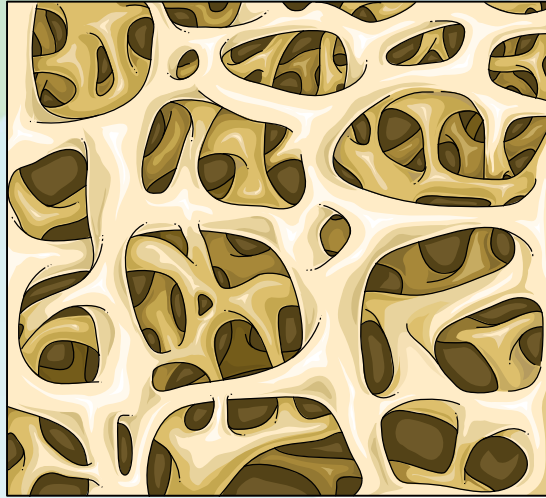


# Bone structure (2)

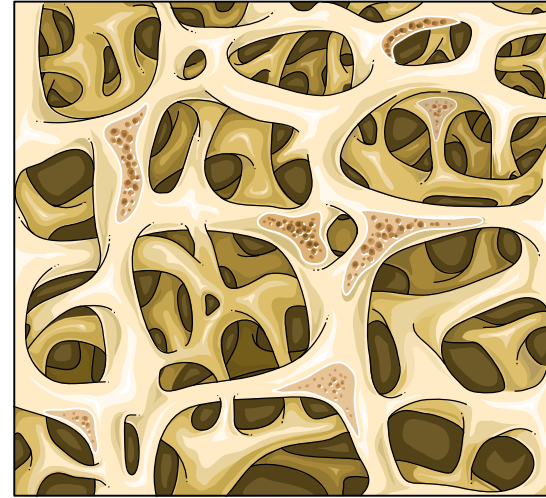


# Trabecular bone (1)

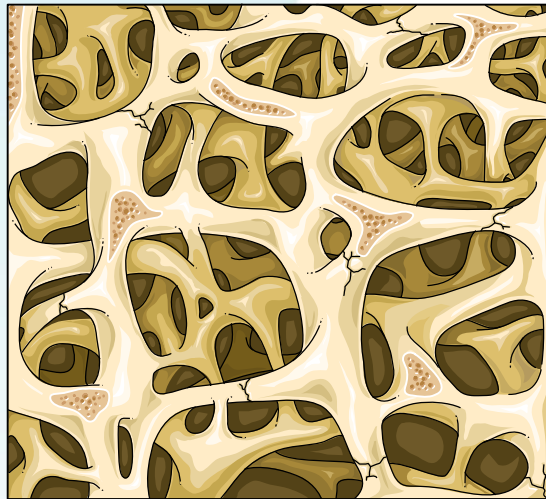
Normal  
trabecular bone



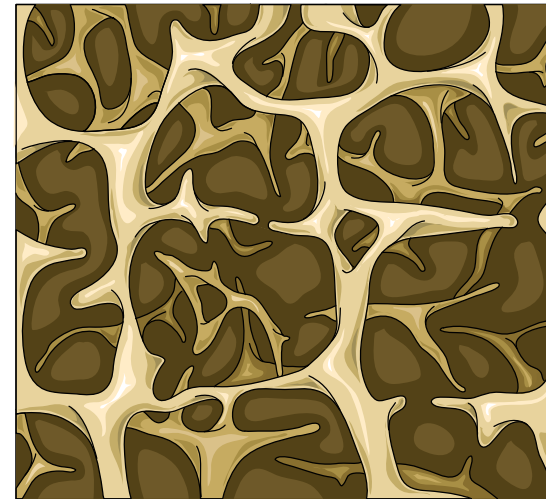
Trabecular  
bone with  
resorption  
areas



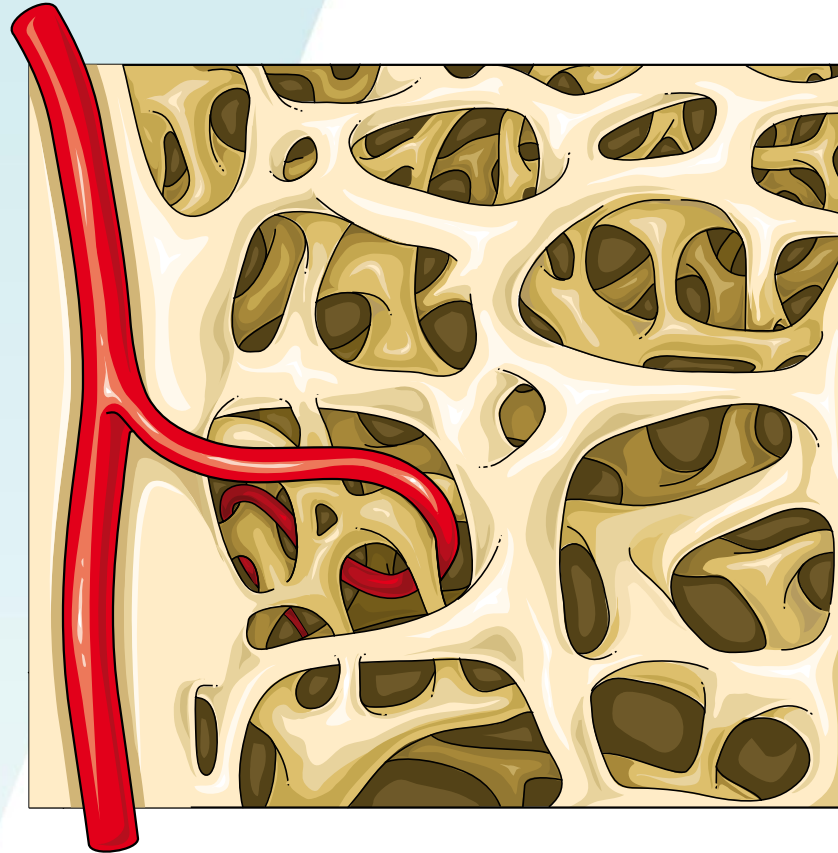
Trabecular  
bone with  
microcracks



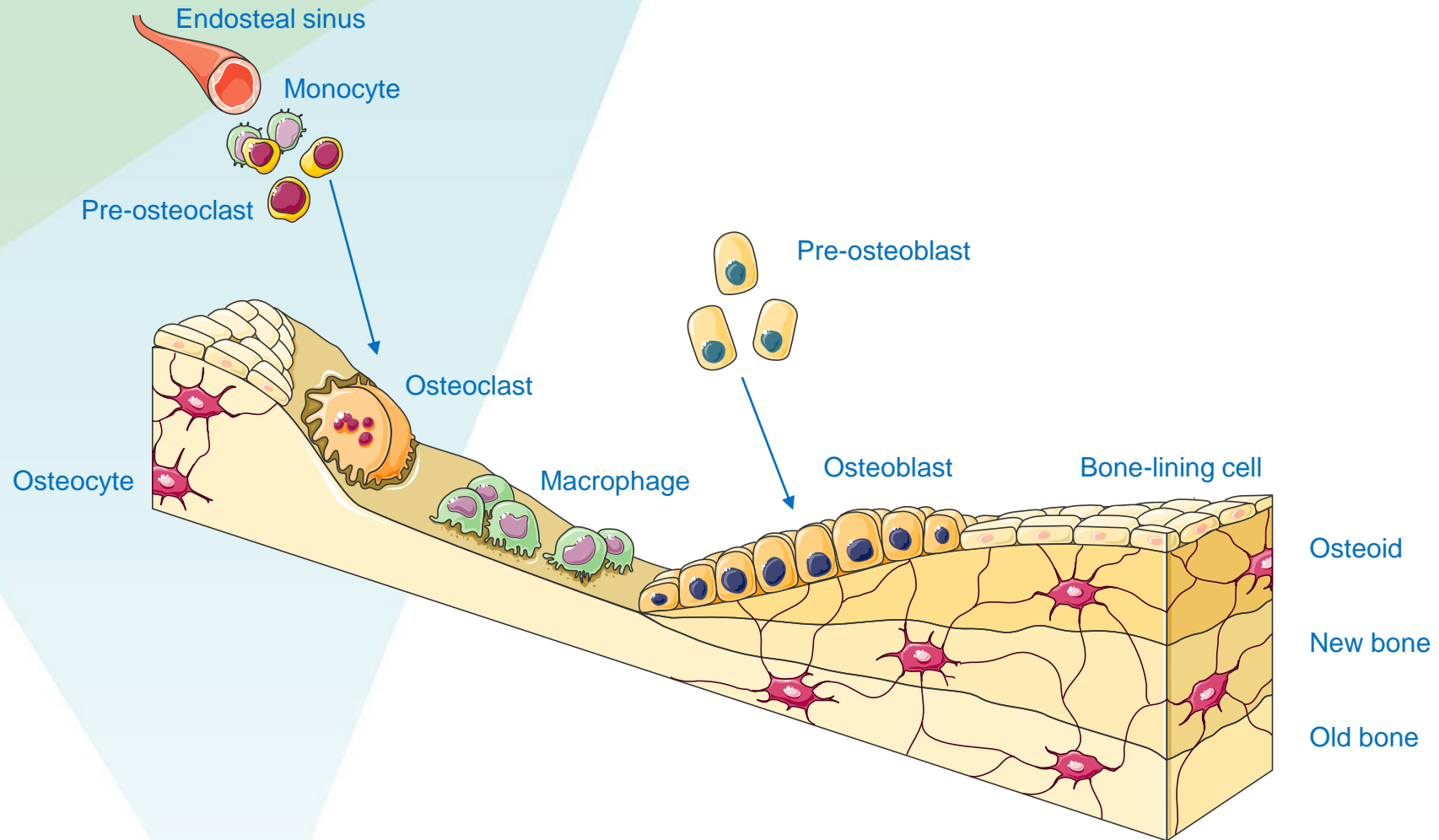
Osteoporotic  
trabecular  
bone



## Trabecular bone (2)

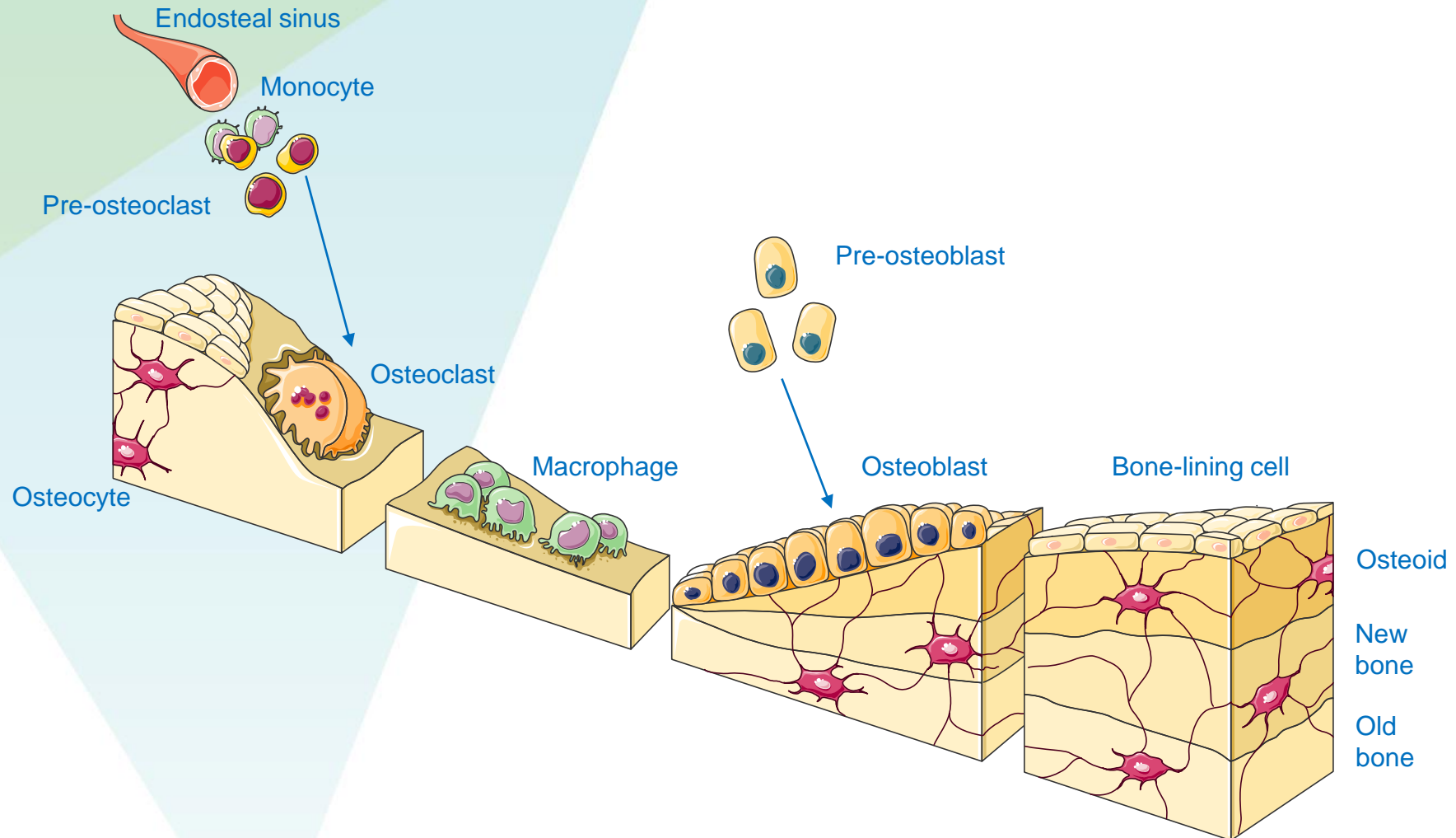


# Bone remodeling cycle (1)

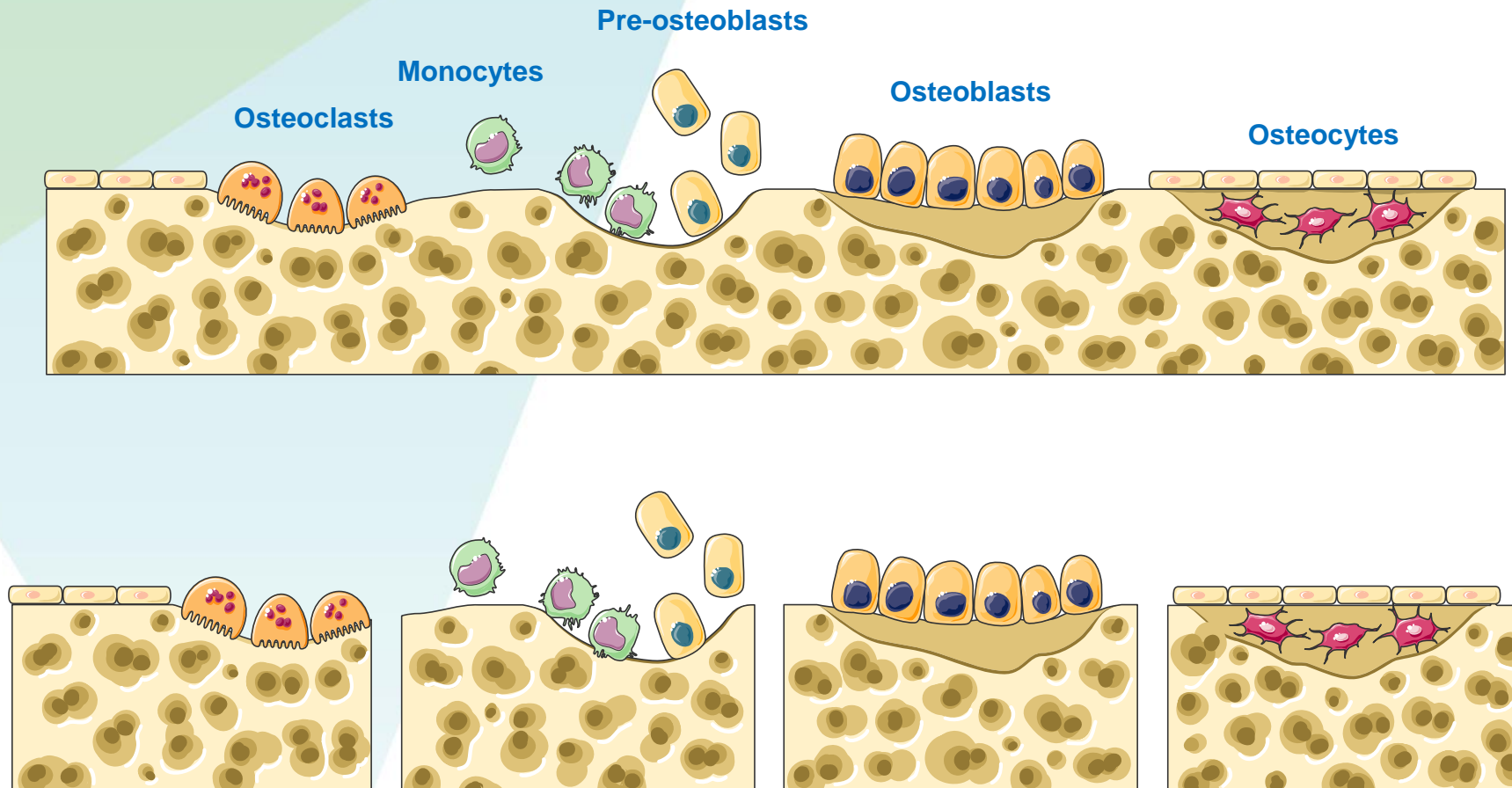




# Bone remodeling cycle (2)

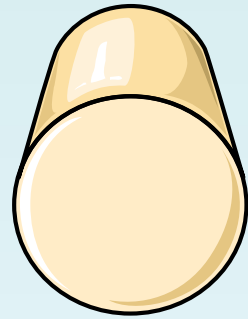


# Bone remodeling cycle (3)

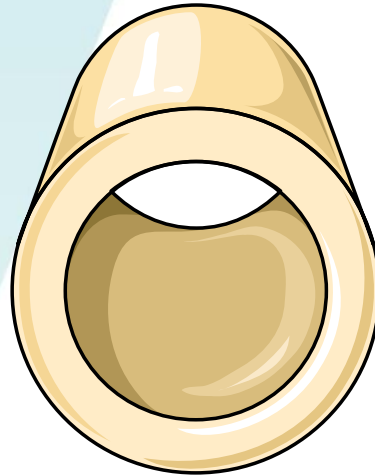




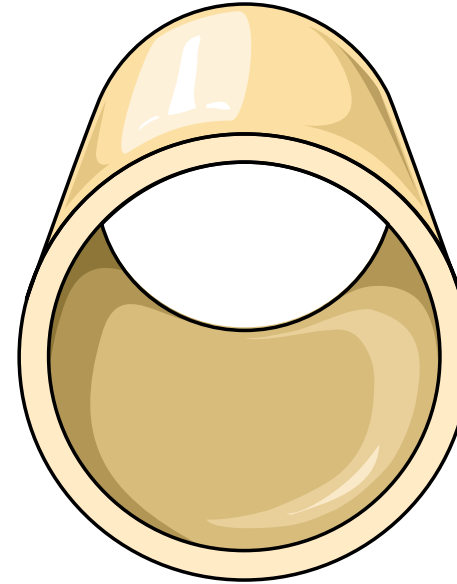
# Bone dimensions



100%



400%



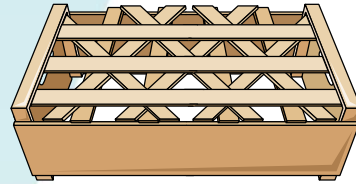
700%

Bone size (length and diameter) influences bone strength

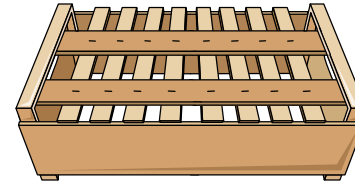
# Bone properties



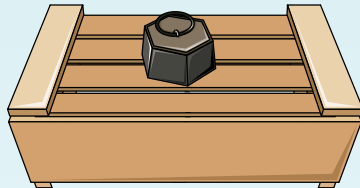
Bone mass



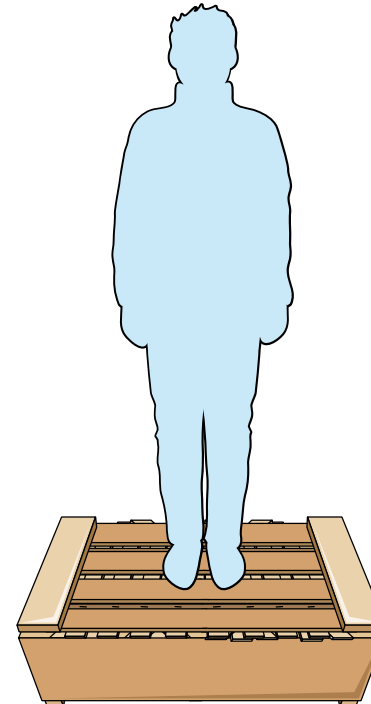
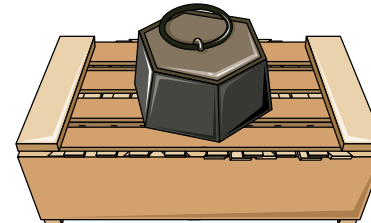
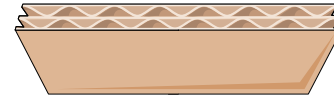
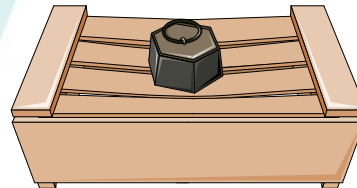
Micro-architecture



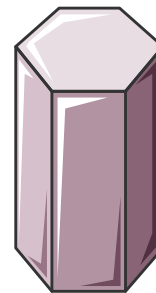
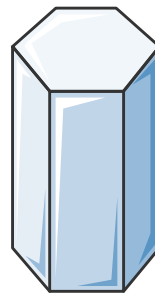
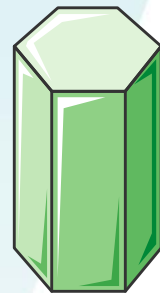
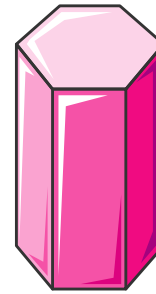
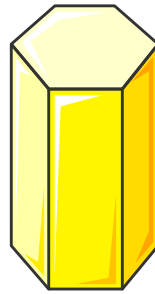
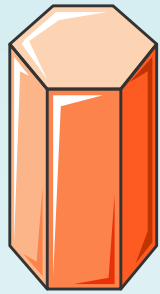
Connectivity



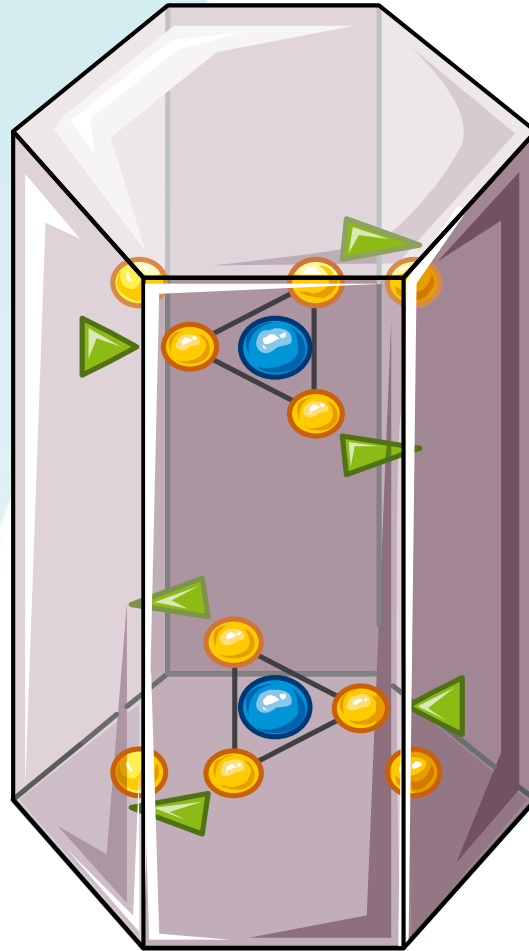
Intraspecific properties



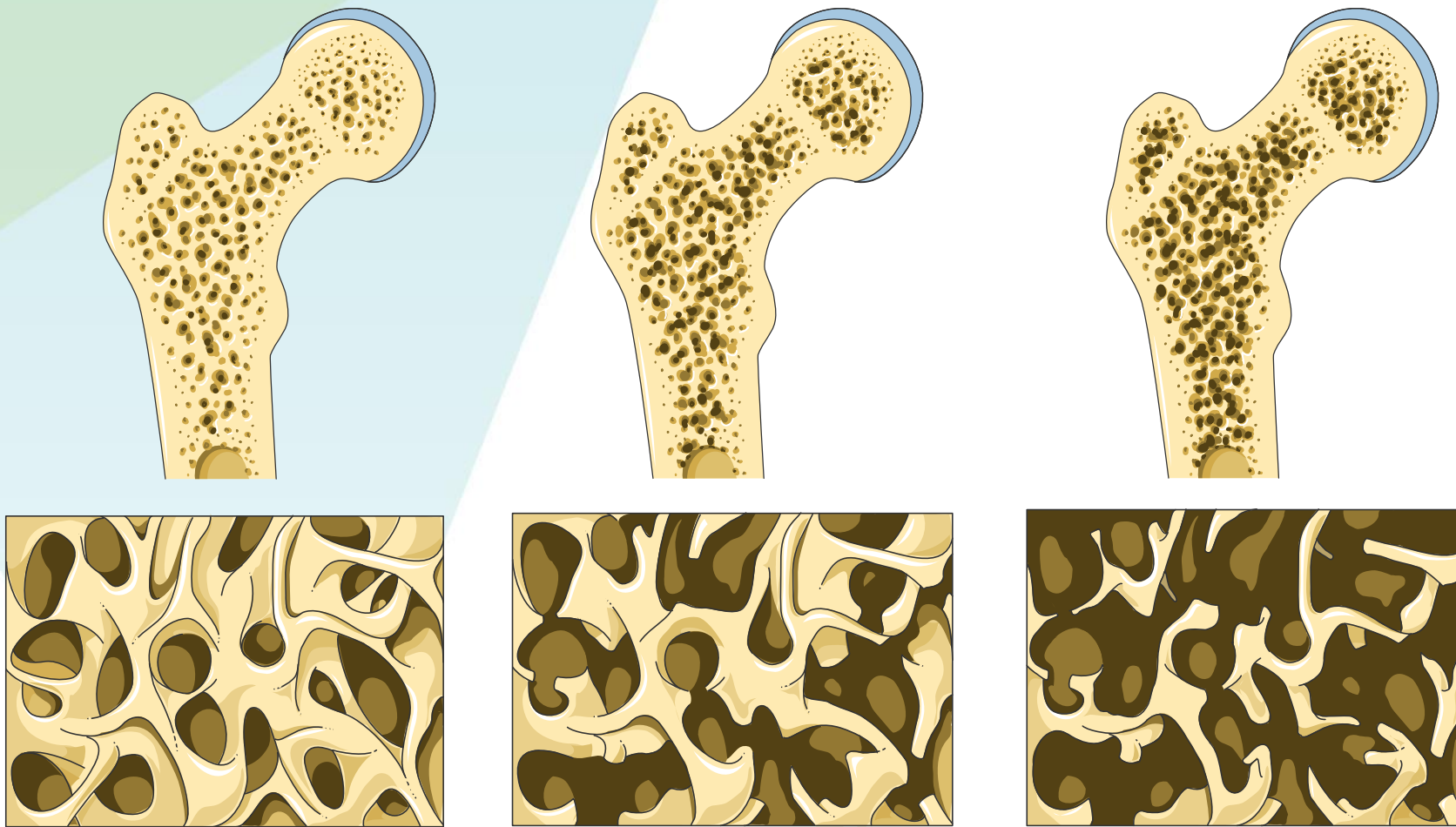
# Hydroxyapatite (1)



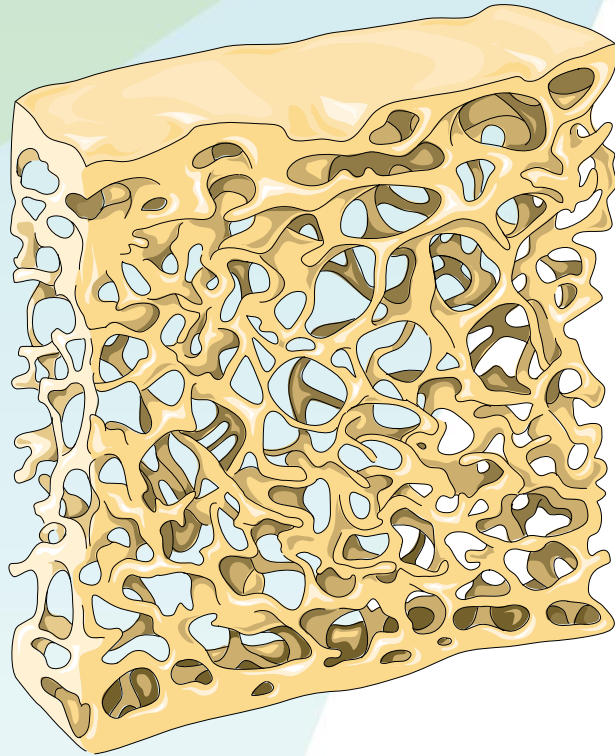
# Hydroxyapatite (2)



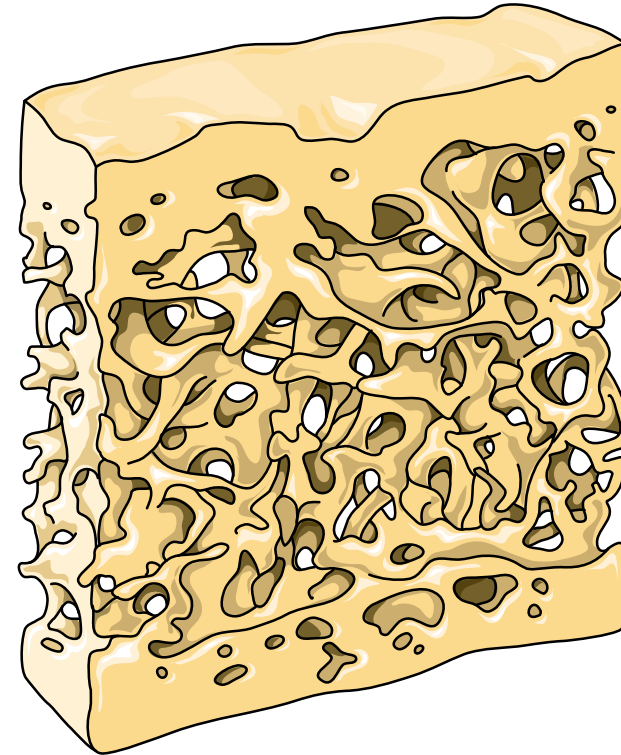
# Osteoporosis



# Bone biopsies



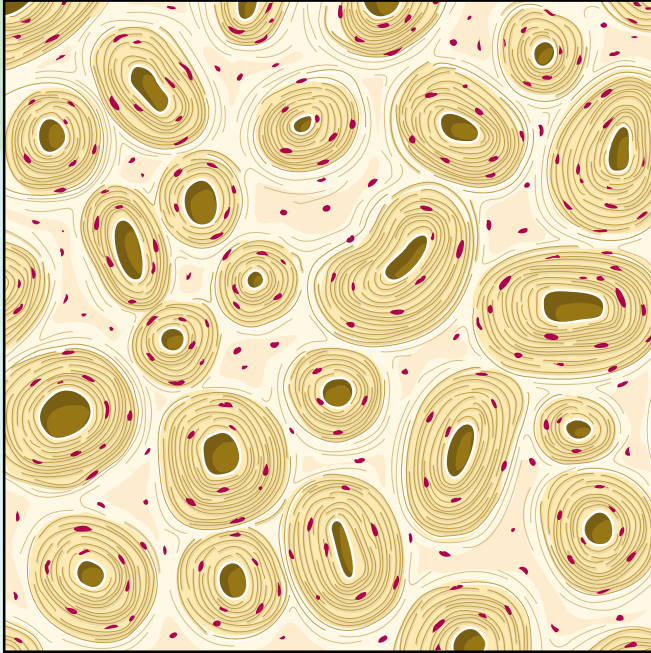
Osteoporotic bone



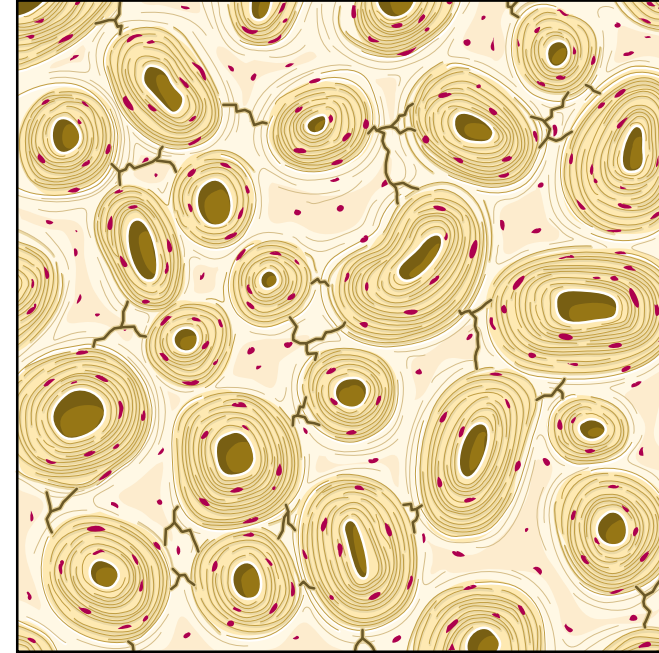
Newly formed bone



# Osteons



Osteons



Osteons with microcracks