

volcano





# Bowen's reaction series

1600 °C  
(totally molten)



650 °C  
(totally frozen)

Olivine



Pyroxene



Amphibole



Biotite



Orthoclase feldspar



Muscovite



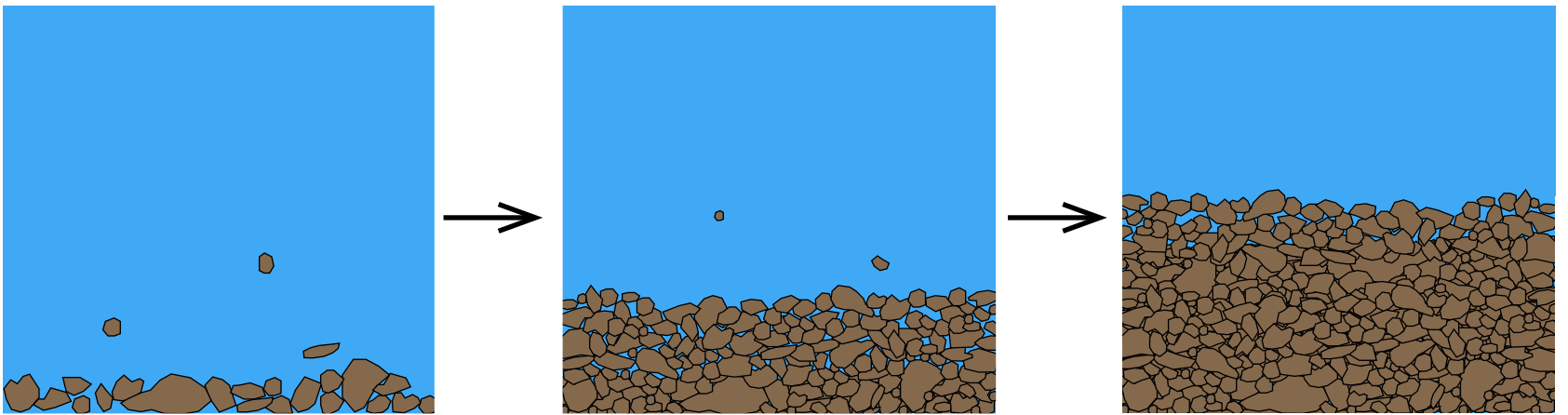
Quartz



Plagioclase feldspar

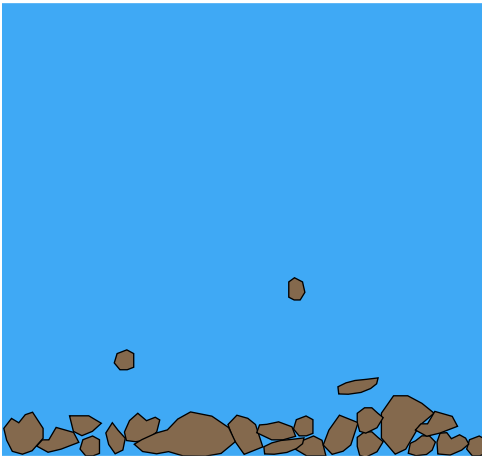


# sedimentation

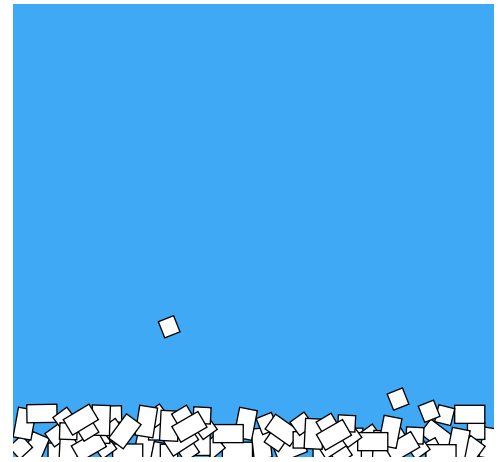


# types of sedimentary rocks

clastic



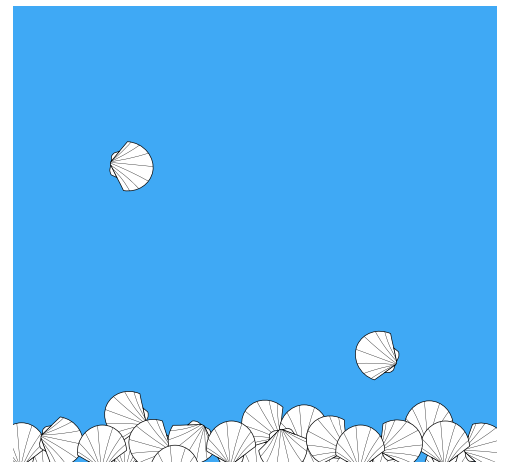
chemical



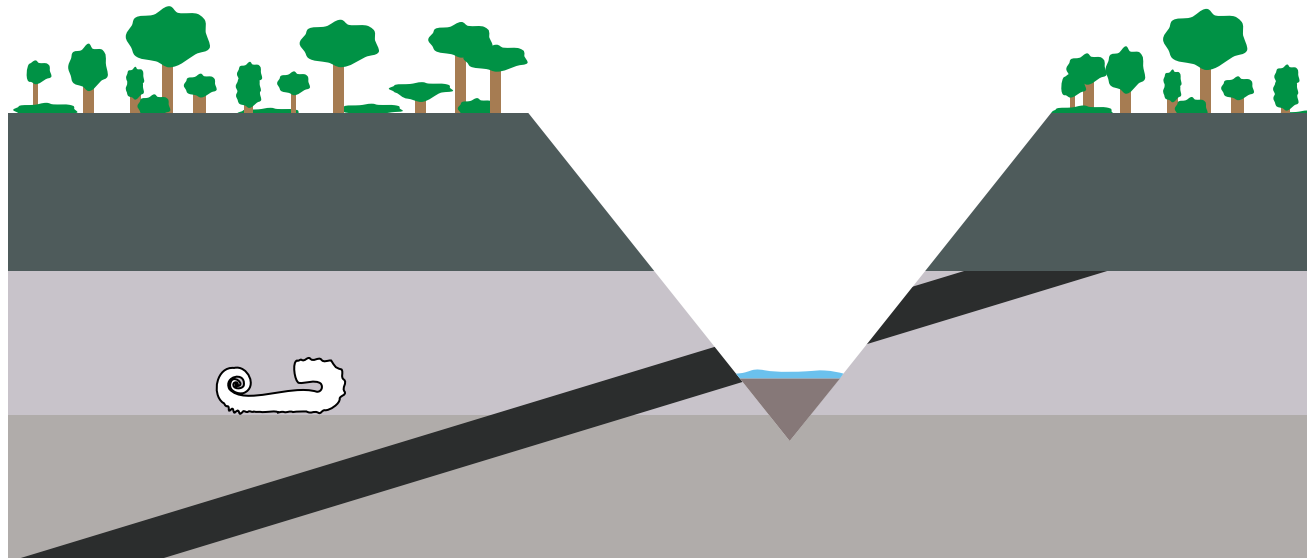
volcanic



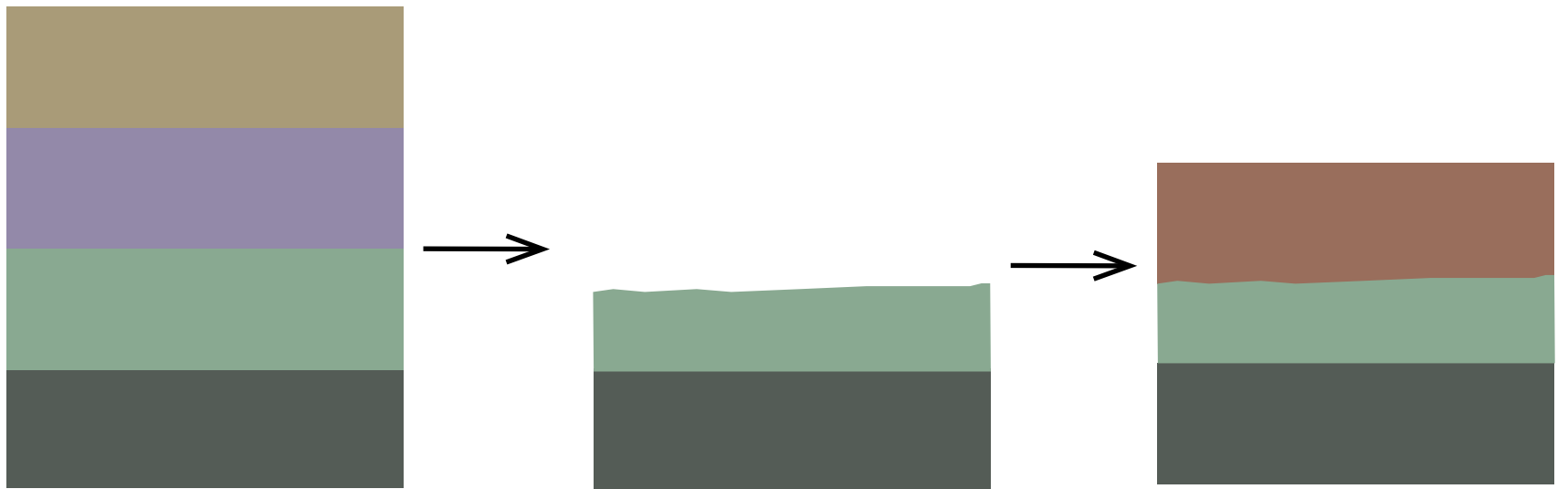
biological



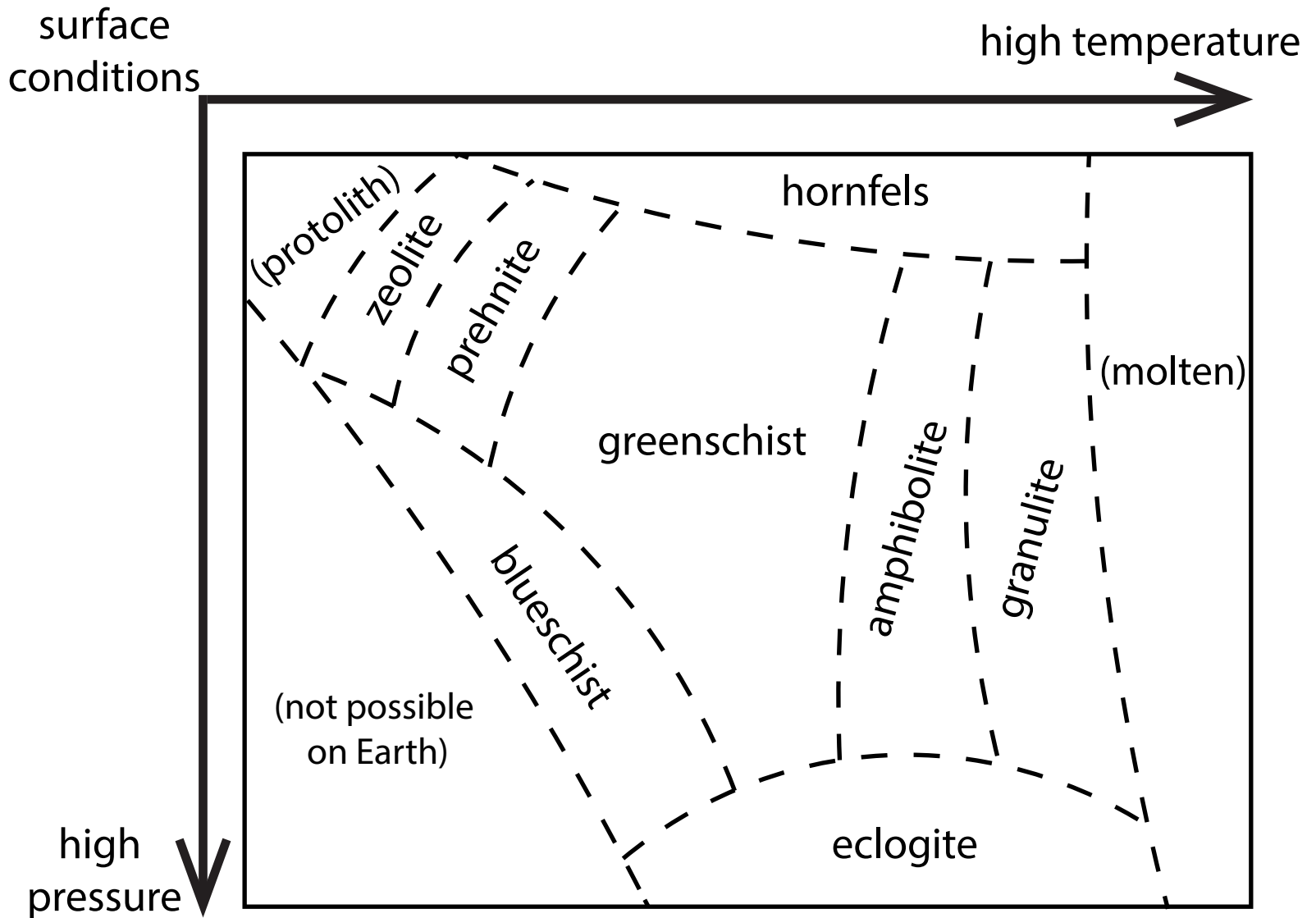
# cross section



# unconformity



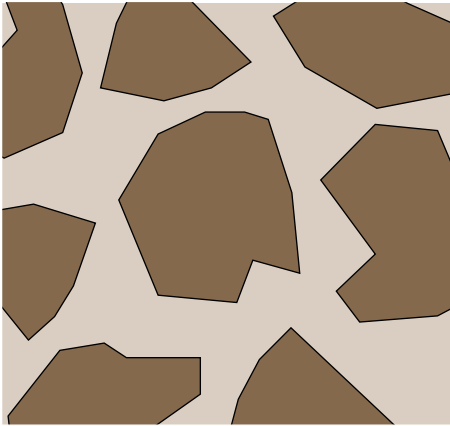
# metamorphic facies



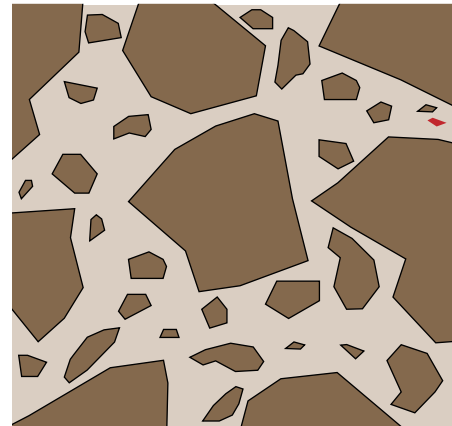


# grain shape and sorting

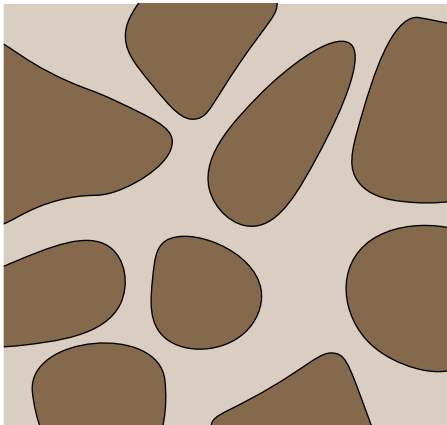
angular



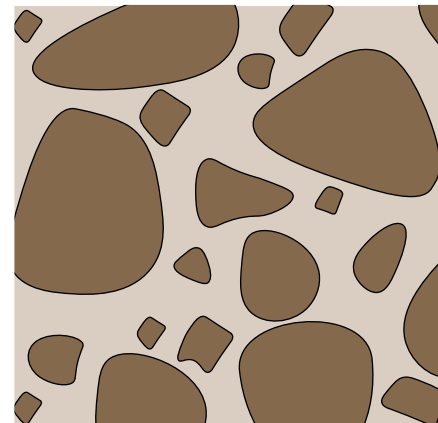
angular & poorly-sorted



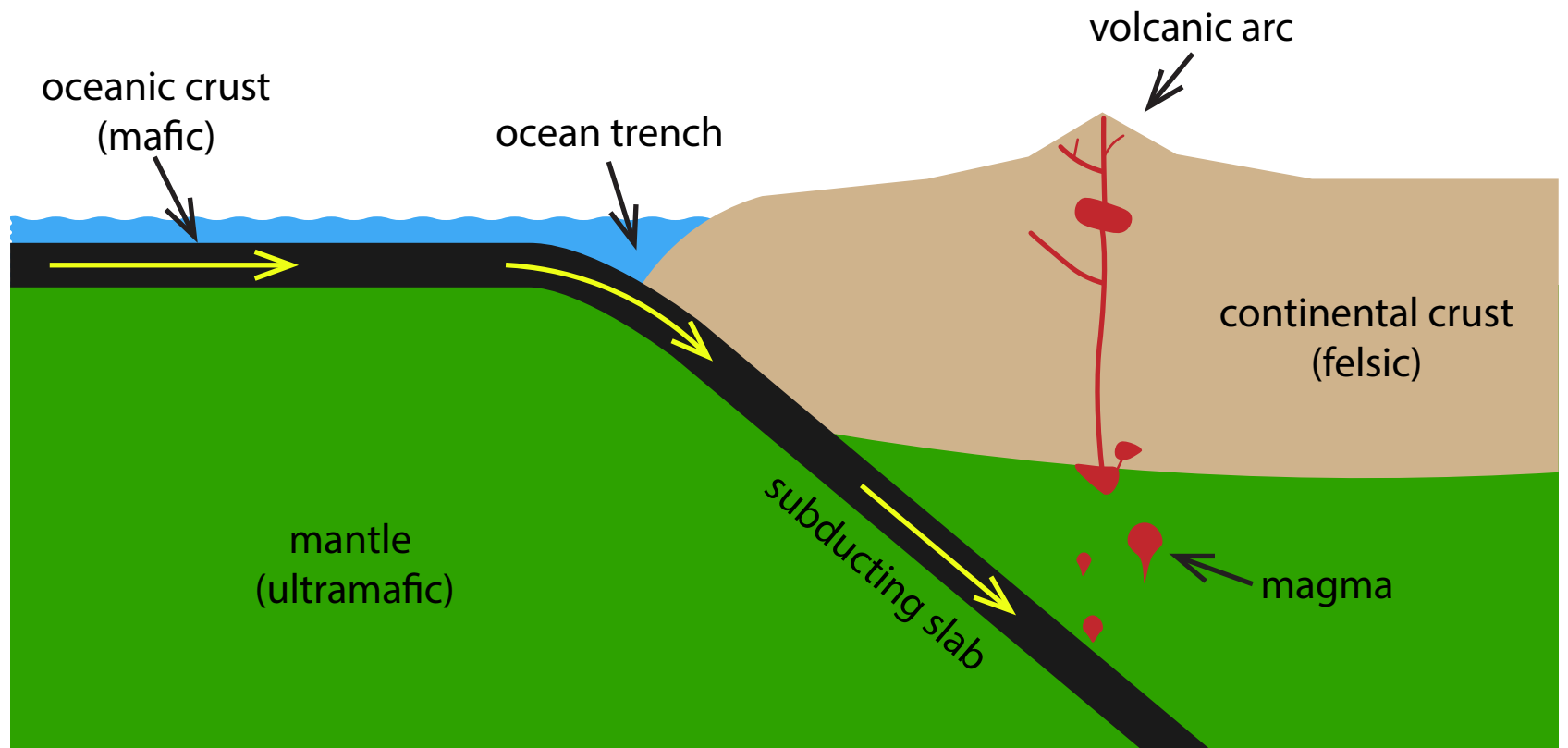
rounded



rounded & poorly-sorted



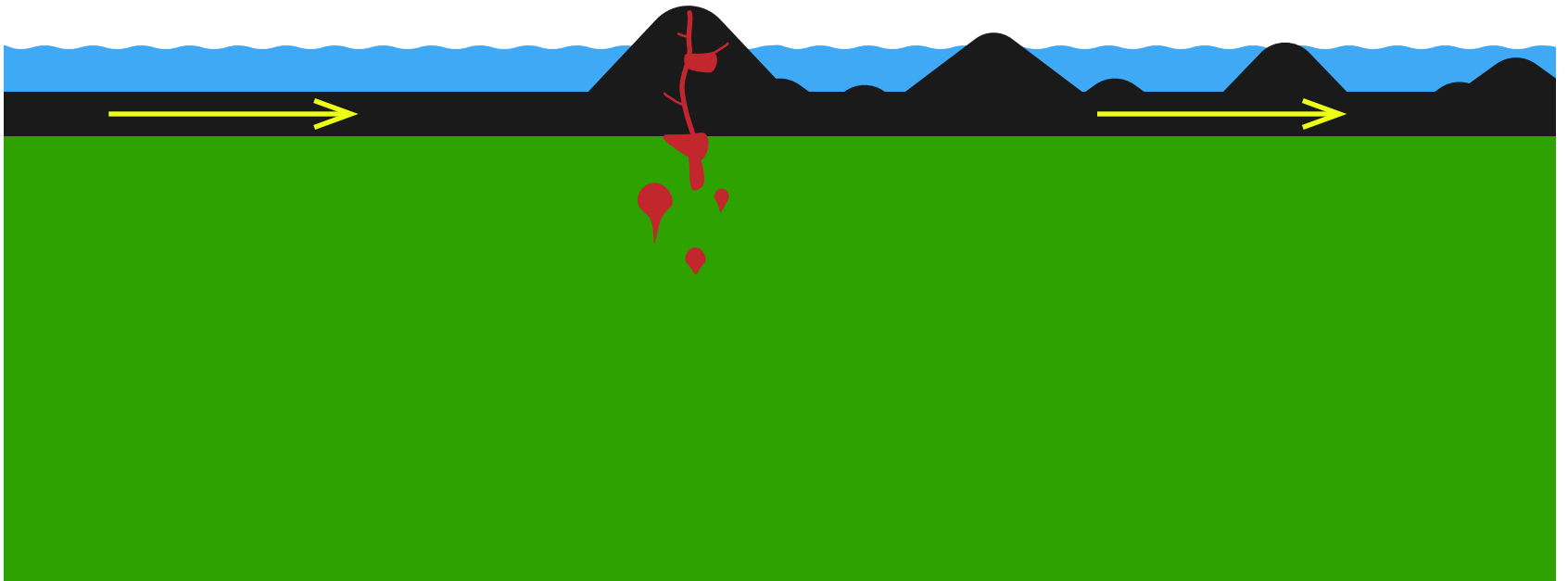
# subduction zone



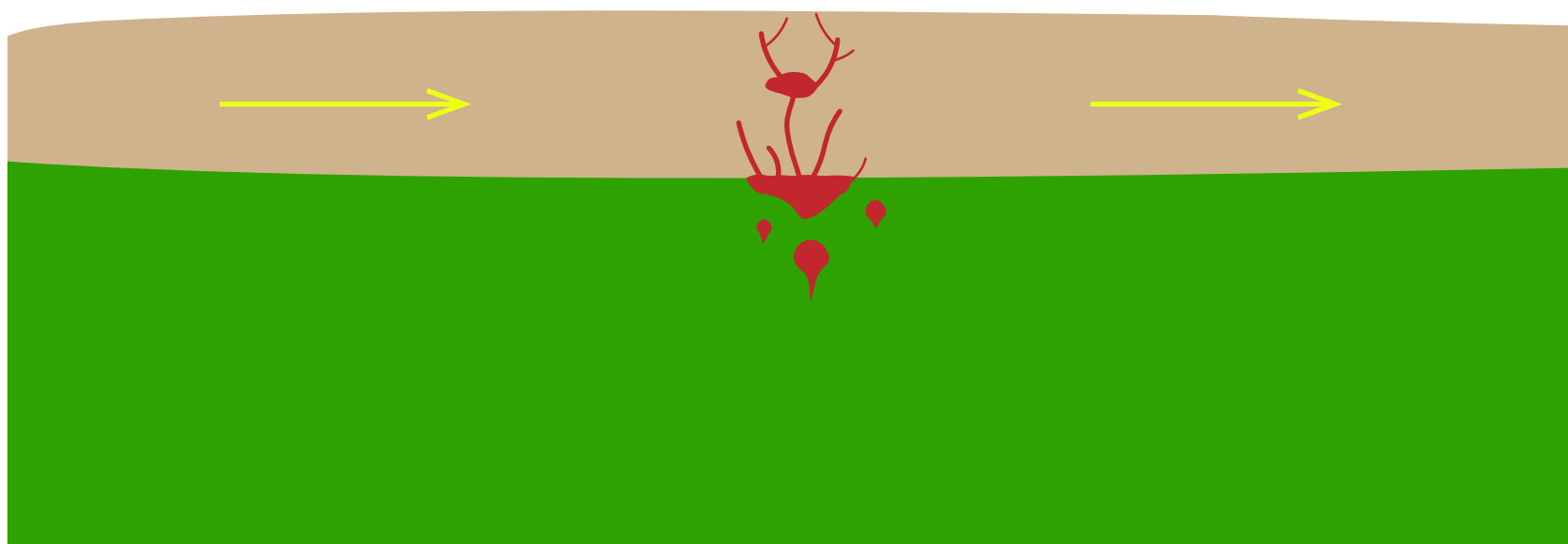
# mid-ocean ridge



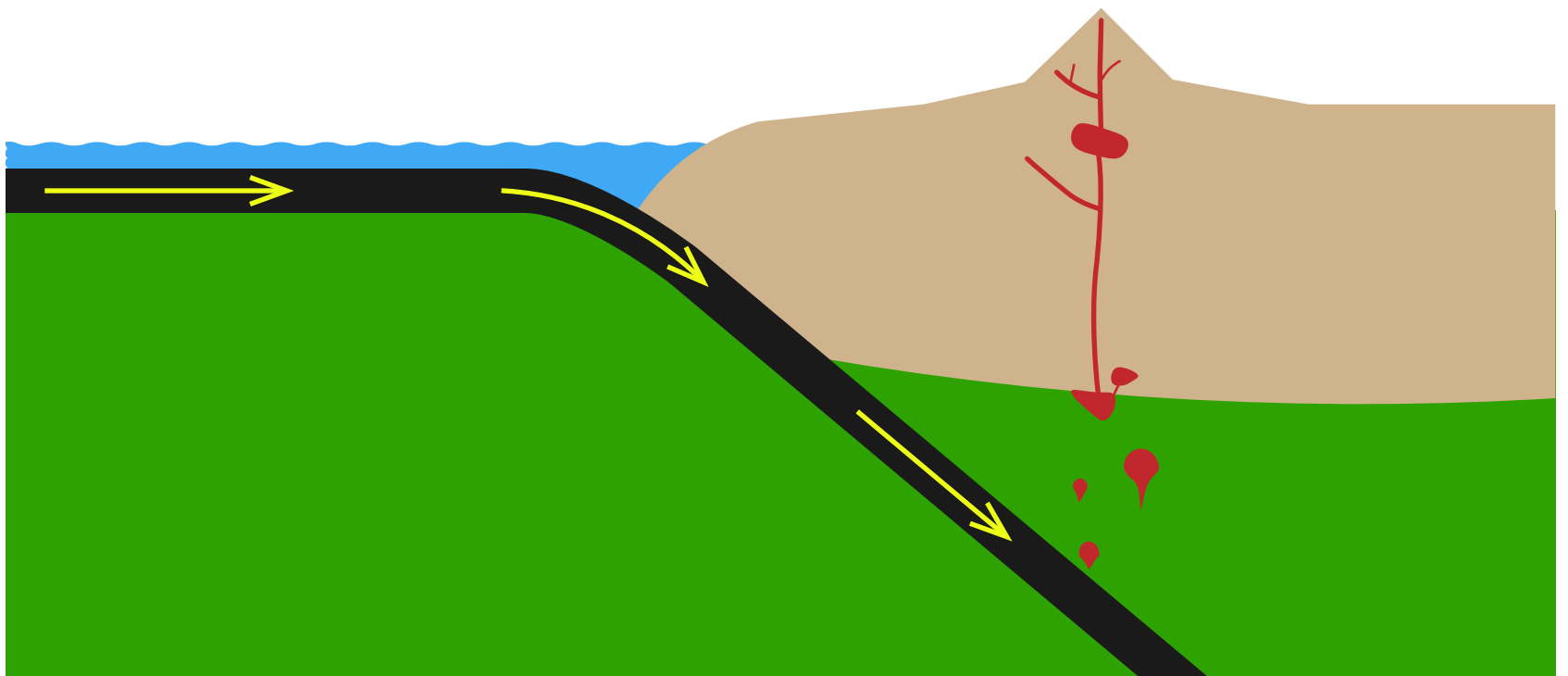
# oceanic hotspot



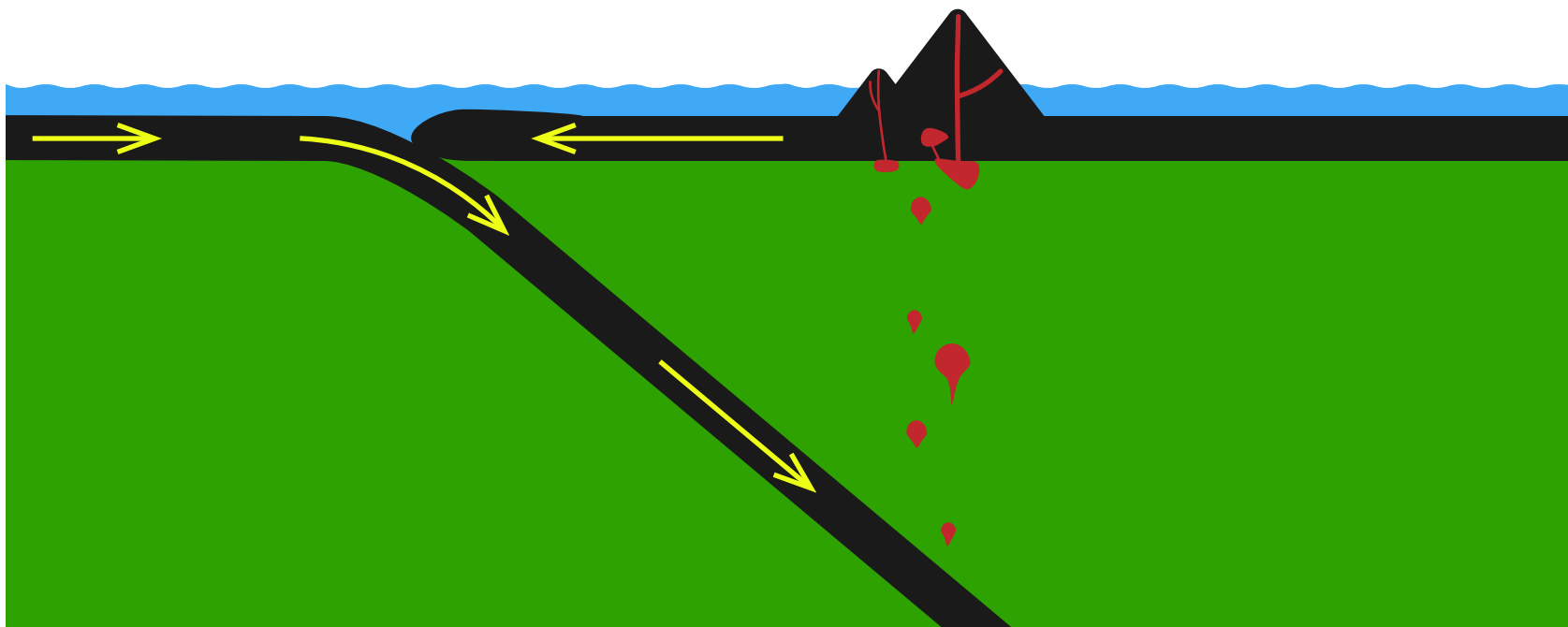
# continental hotspot



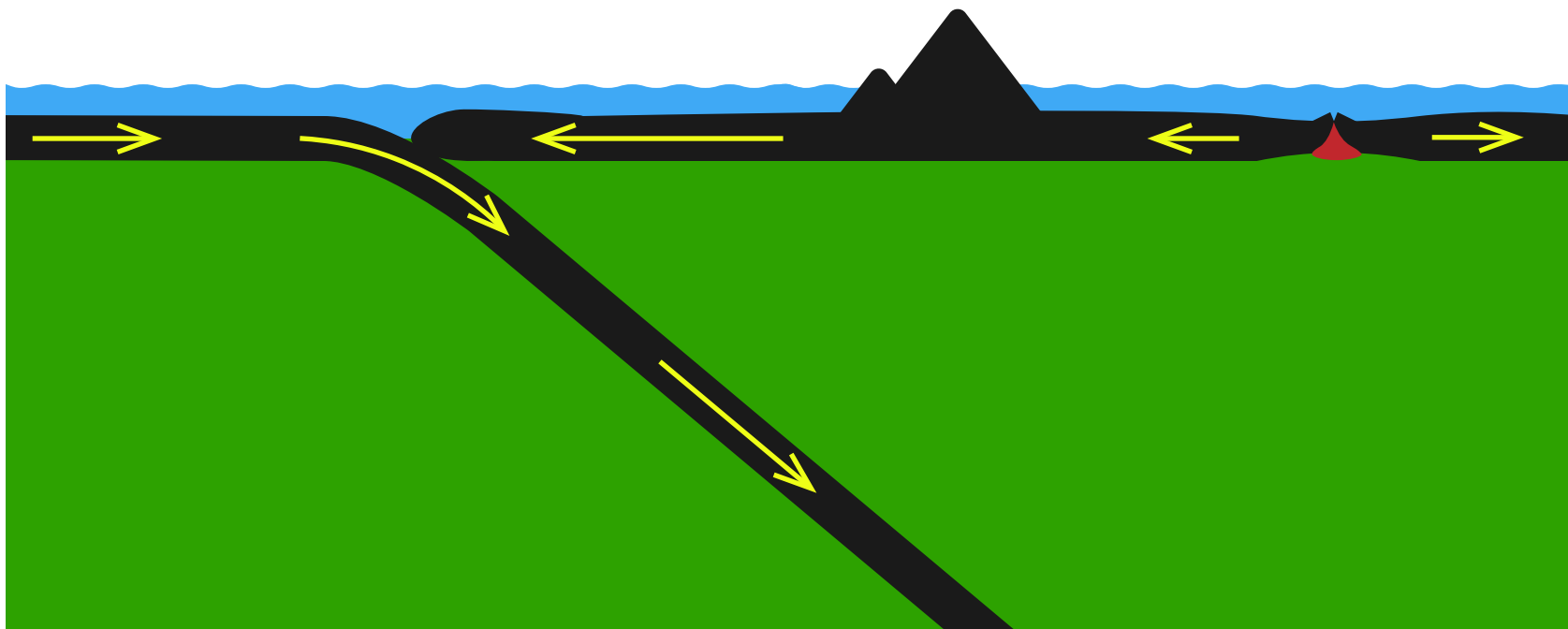
# continental arc



# oceanic arc

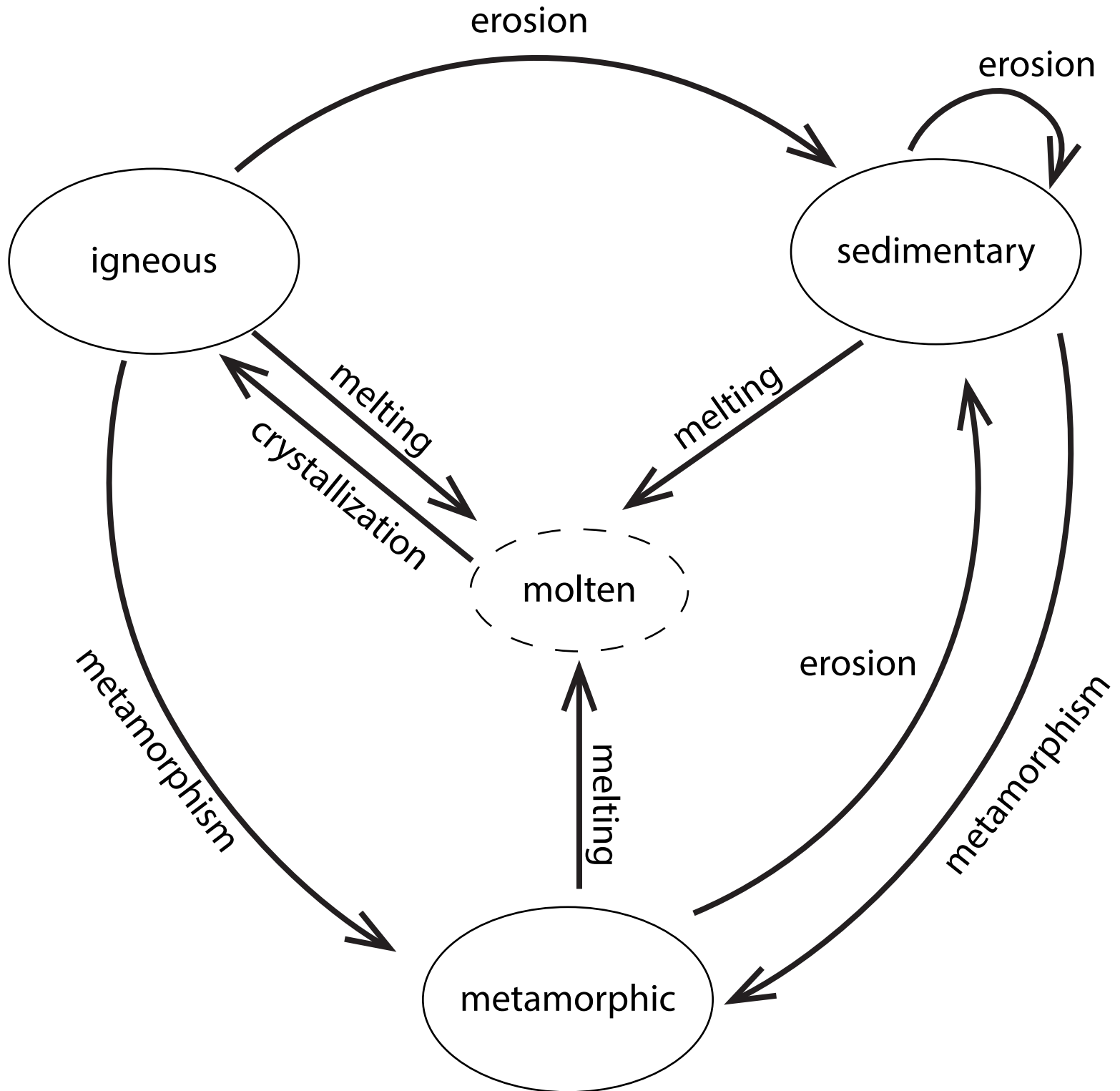


# oceanic back-arc

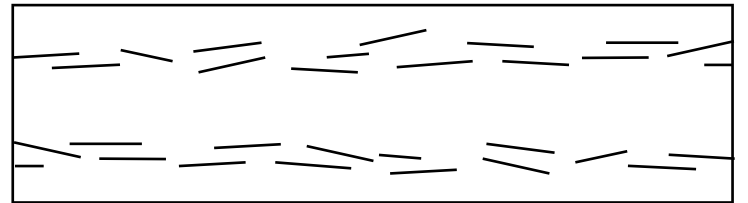
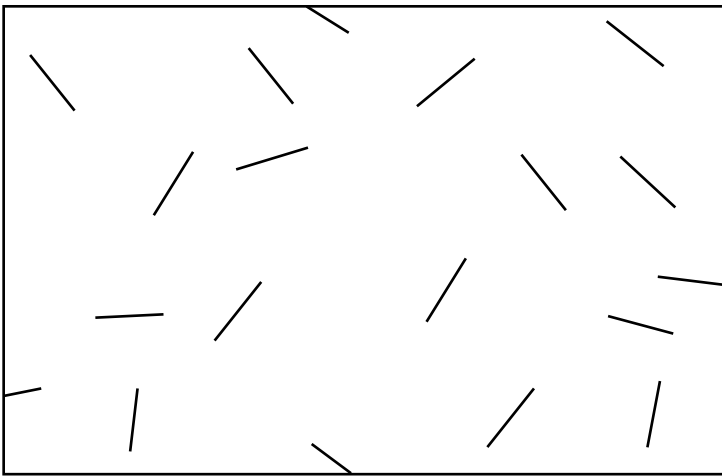




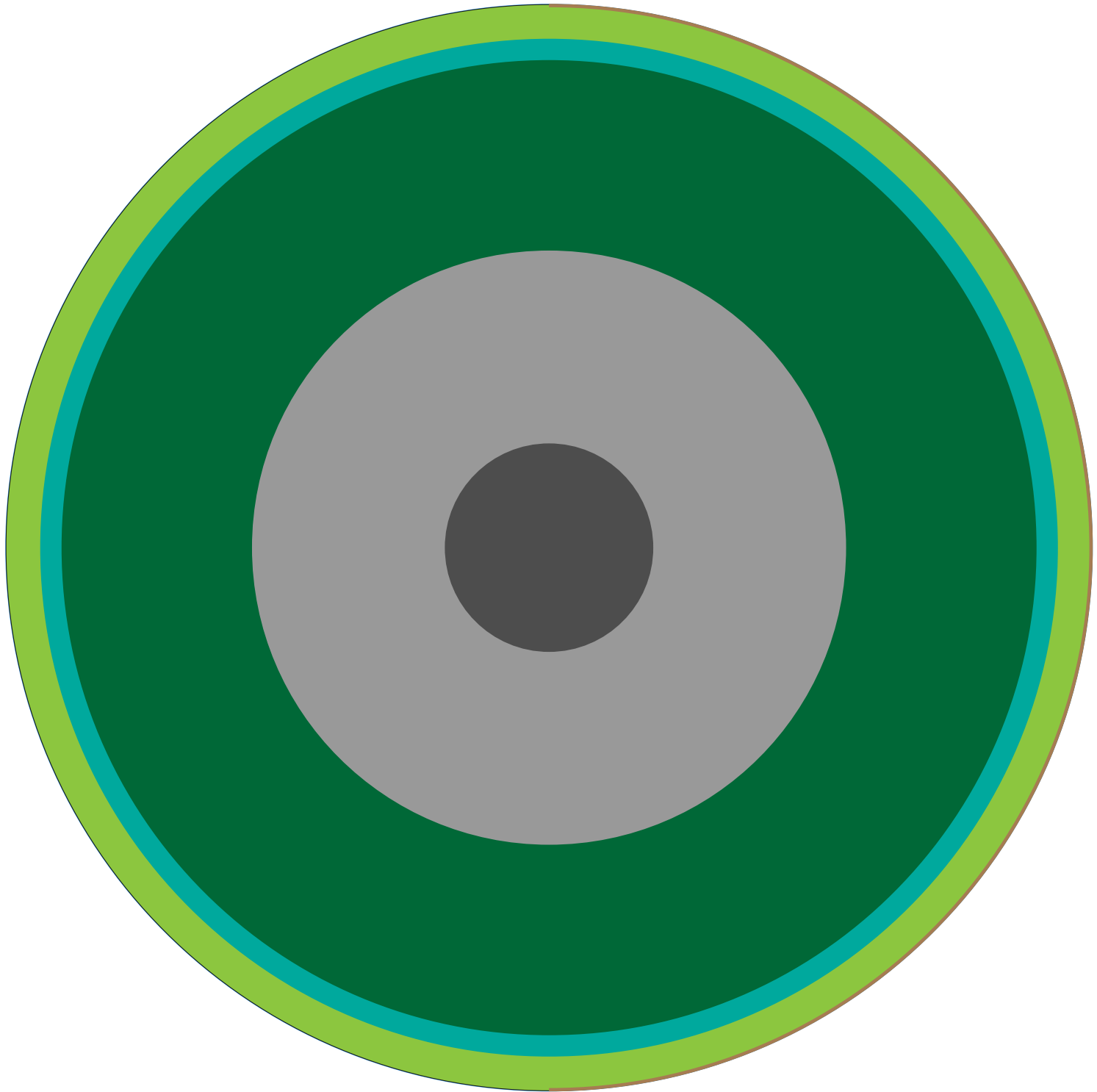
# rock cycle



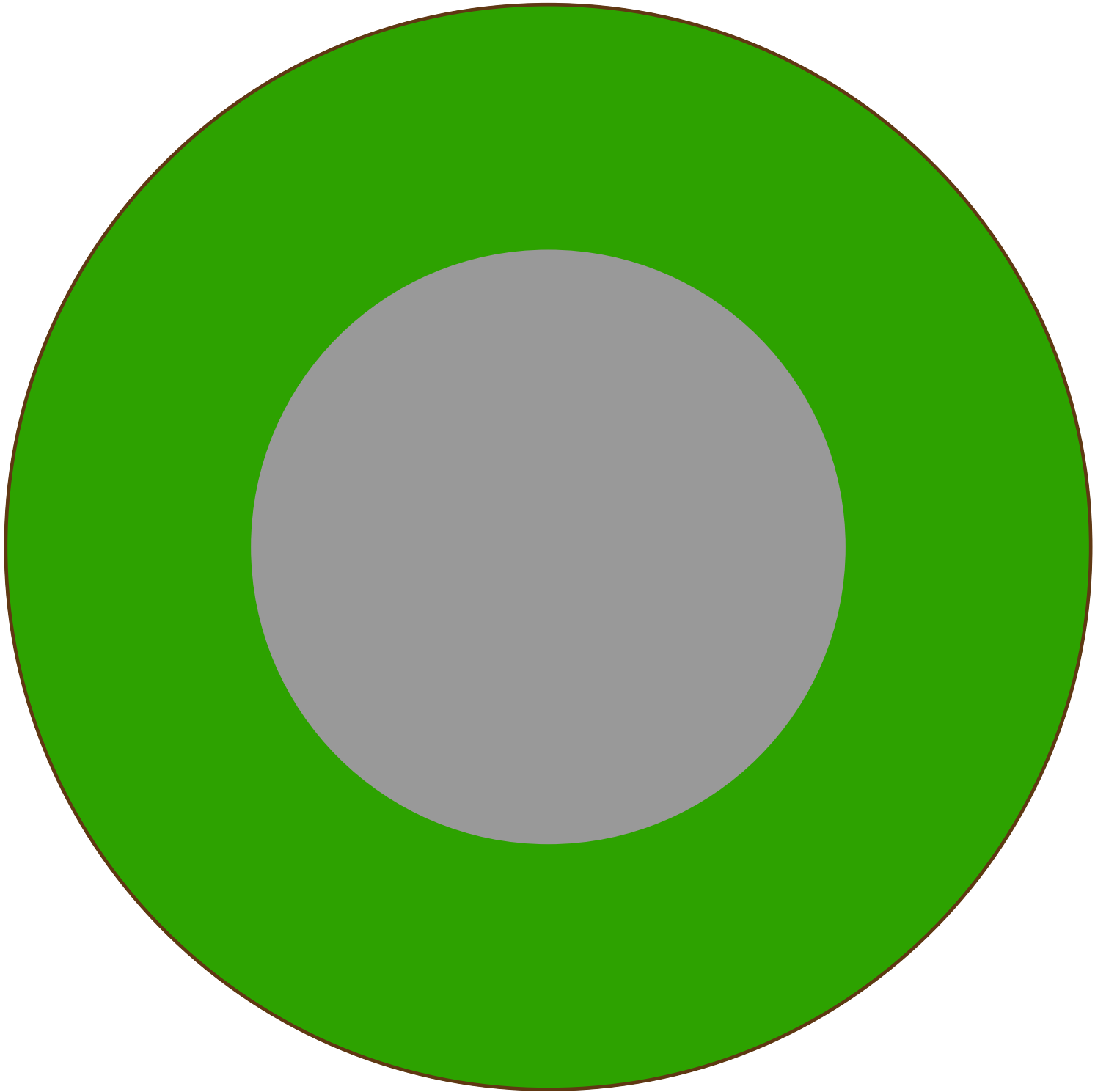
# foliation



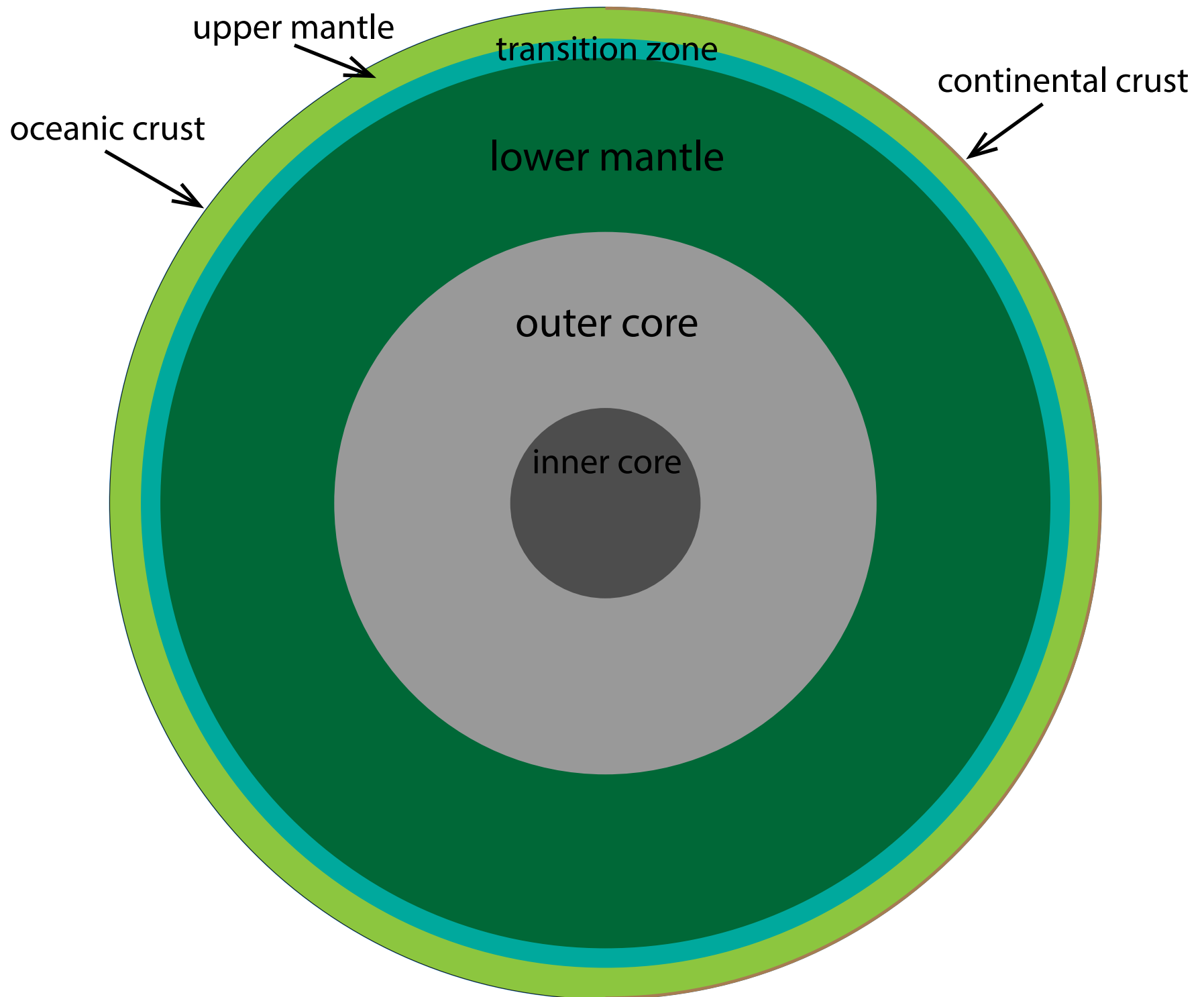
# Earth cross section



# Earth cross section (simple)



# Earth cross section (labeled)

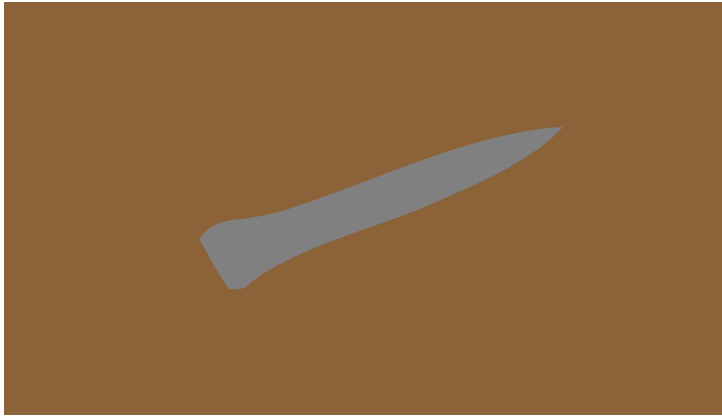


# sedimentary grain size

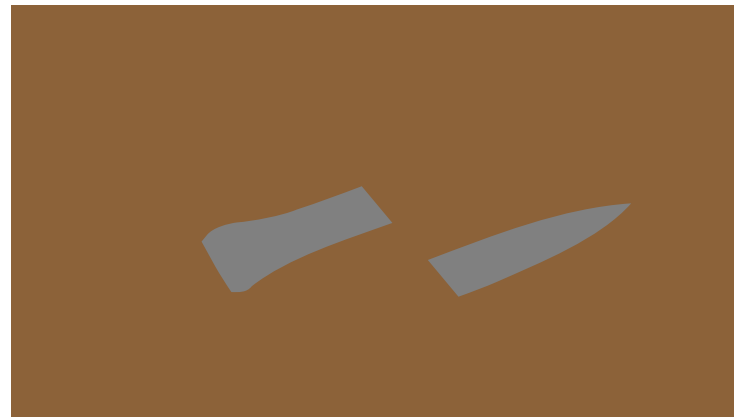
<b>Clast diameter (mm)</b>	<b>Clast name</b>	<b>Rock name</b>	
>256	Boulder	Breccia (angular clasts) or Conglomerate (rounded clasts)	
64-256	Cobble		
2-64	Pebble		
0.6-2	Sand	Sandstone	
0.004-0.6	Silt	Siltstone	(or Mudstone)
<0.004	Clay	Claystone	

# Belemnite fossil deformation

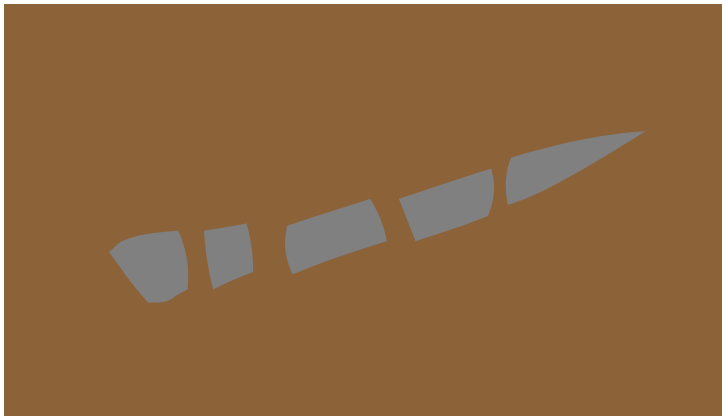
original



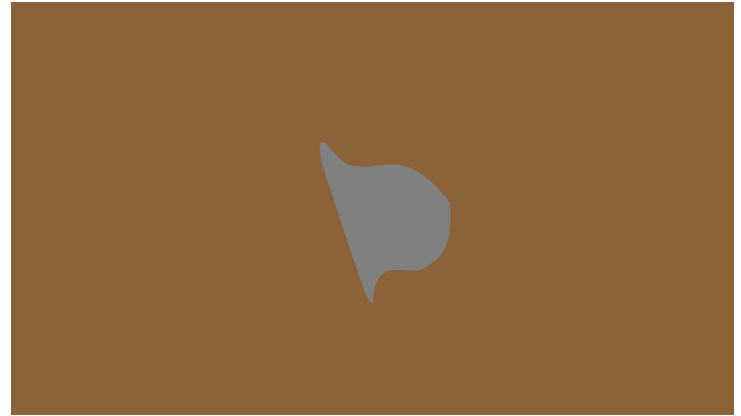
faulted



extended



compressed



# Earth, Moon, Mars (to scale)

