

17 The Evolution of Elephants



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Asian Elephant present day



African Elephant present day



**Mastodon
25–30 million
years ago**



**Woolly Mammoth
2 million years ago**

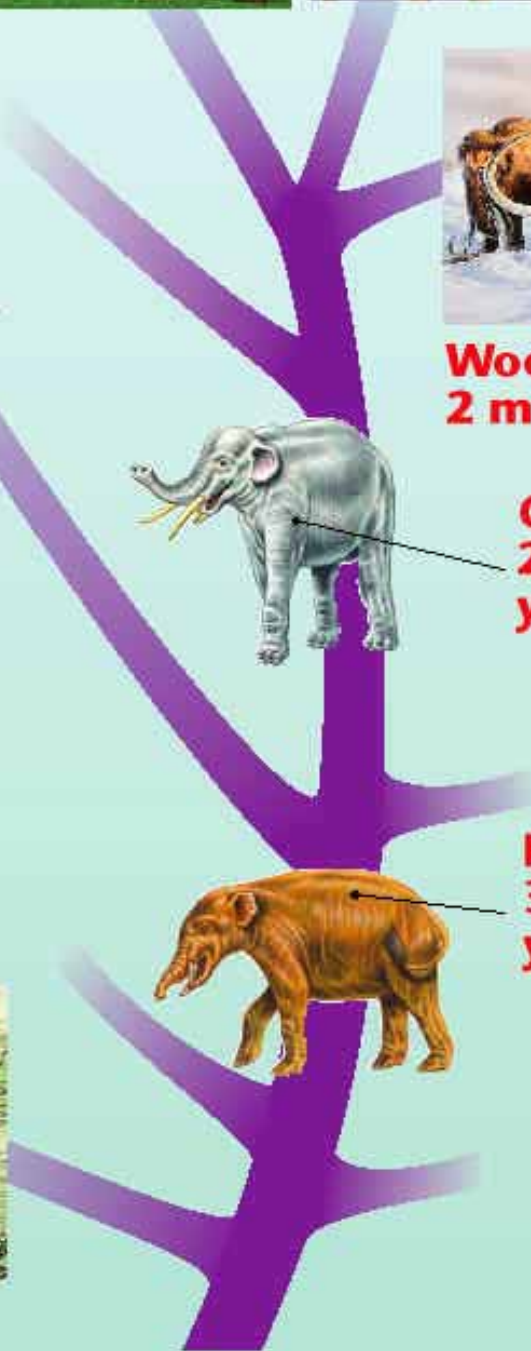


**Gomphotherium
23 million
years ago**

**Moeritherium
36 million
years ago**

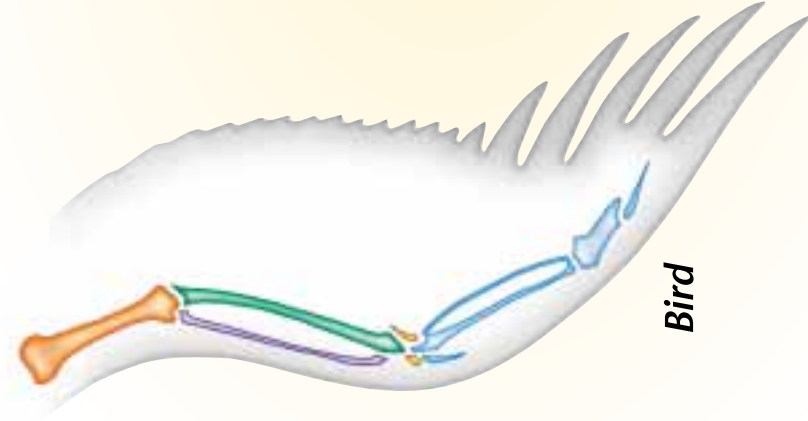


**Paleomastodon
34 million
years ago**

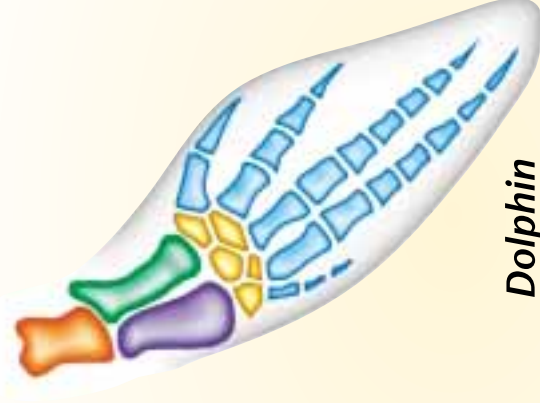




18 Homologous Structures



Bird



Dolphin



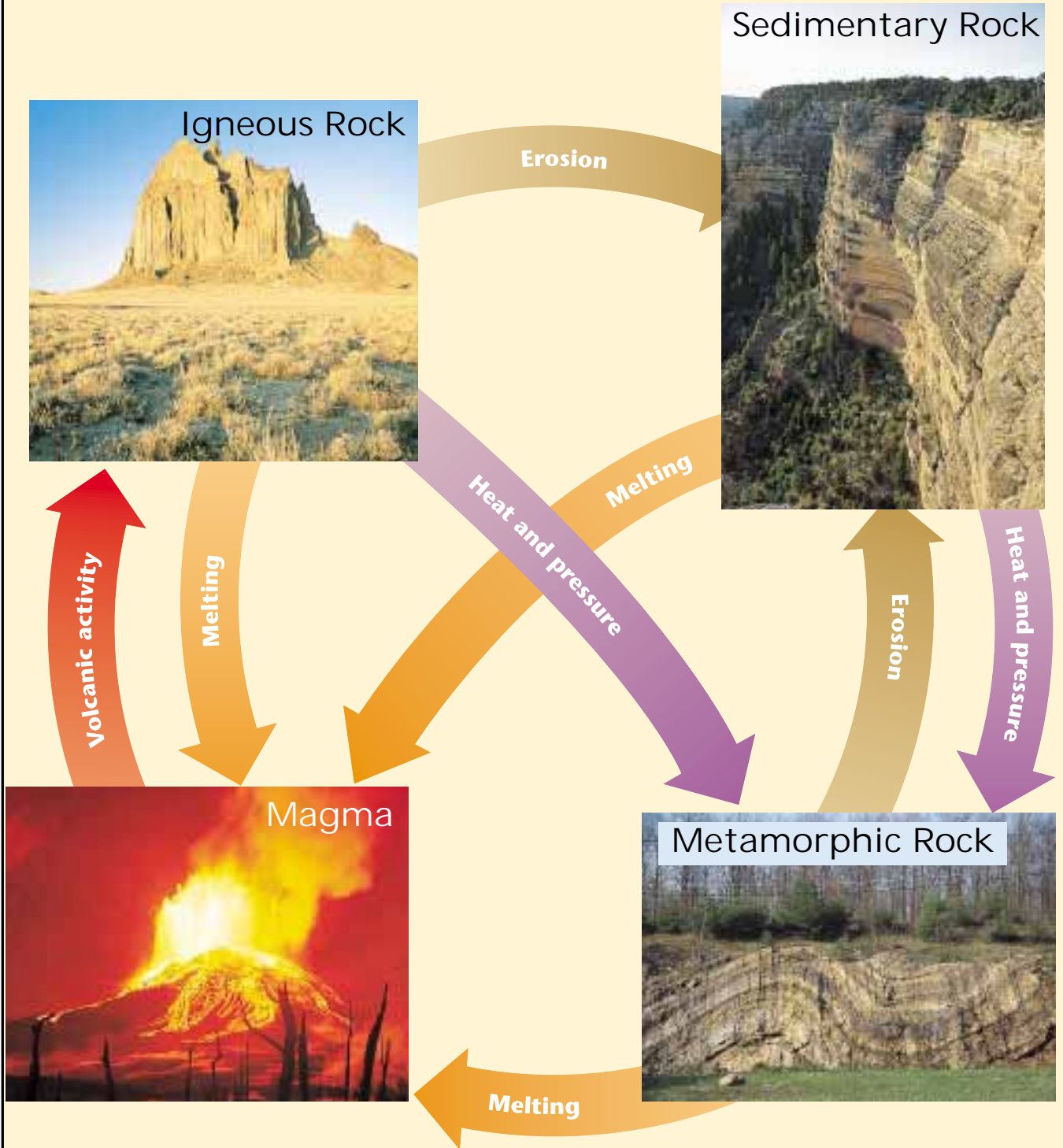
Dog

19 The Rock Cycle



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20 Formation of a Rock Fossil



1. Organism dies.



2. Organism is buried in sediment.



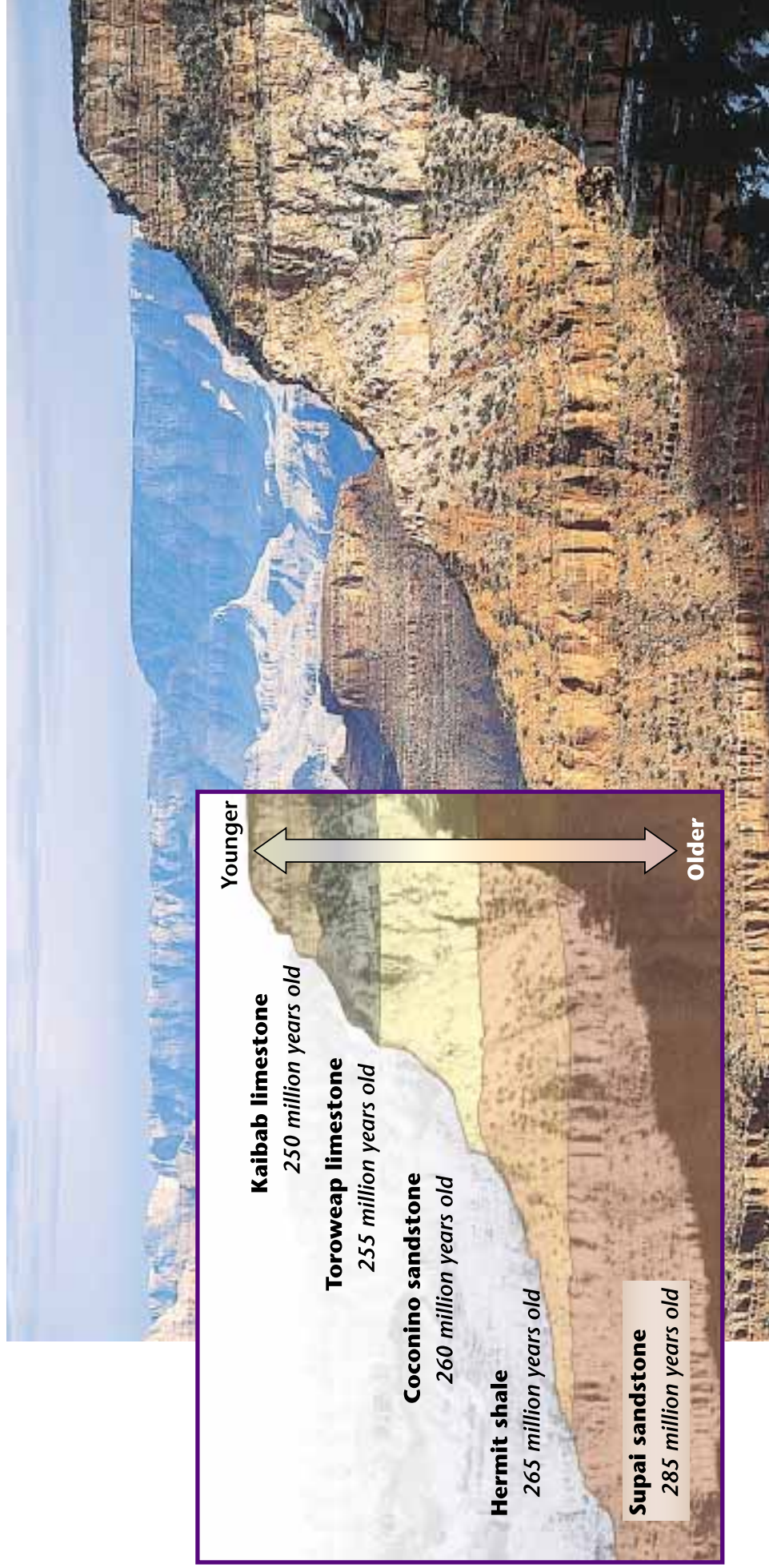
3. Sediment changes to sedimentary rock containing a fossil.



4. Erosion exposes the fossil at the surface.



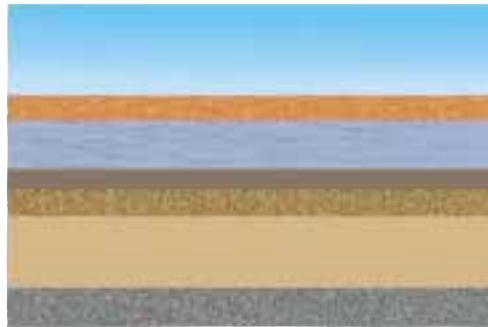
21 The Law of Superposition



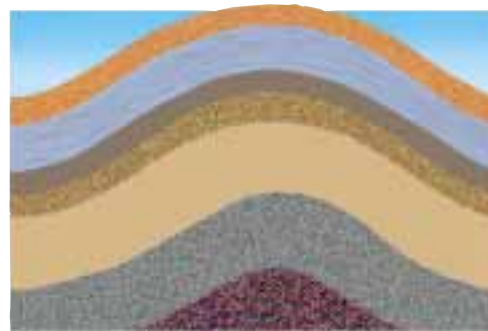
22 Formation of an Unconformity



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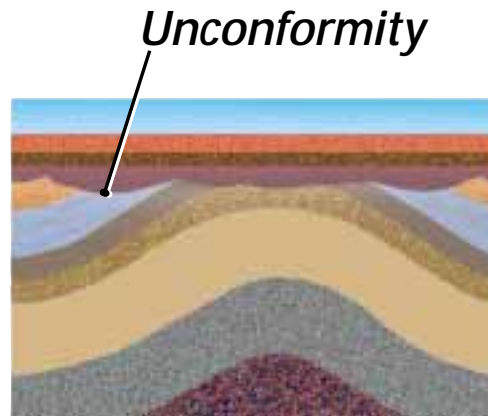
1. Sedimentary rocks form in horizontal layers.



2. Folding tilts the rock layers.



3. The surface is eroded.

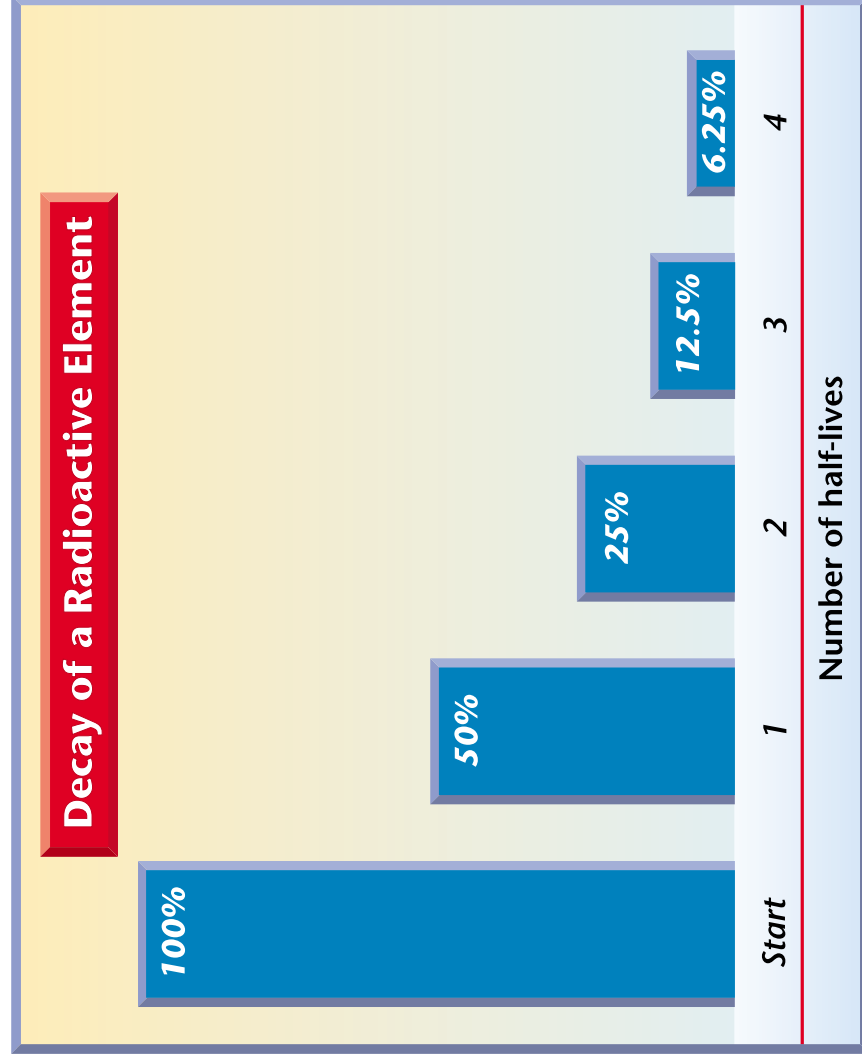
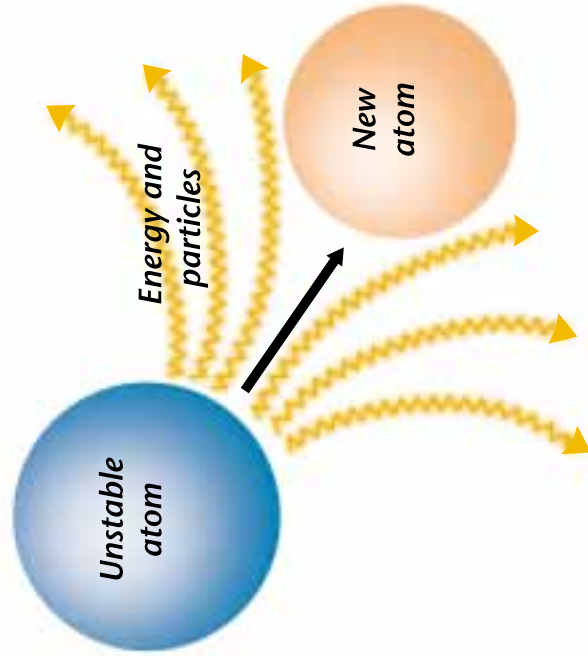


4. New sediment is deposited, forming an unconformity.

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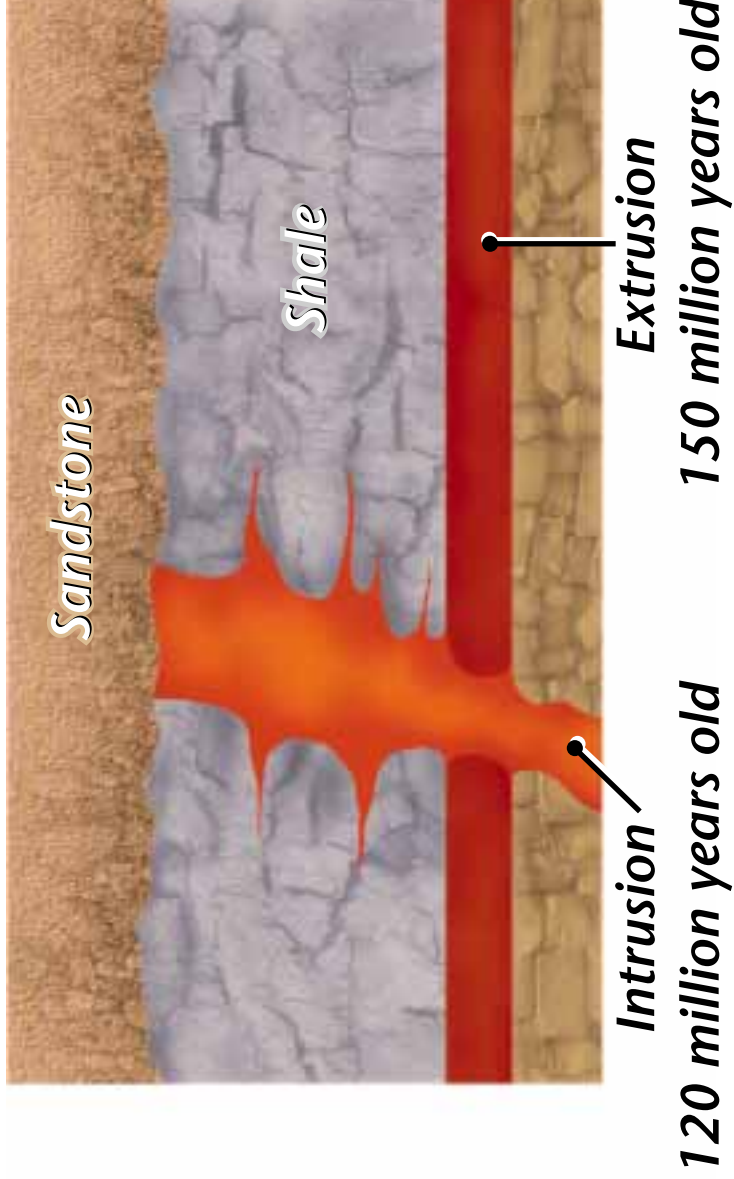


23 Radioactive Decay





24 Dating Sedimentary Rock With Intrusions and Extrusions



25 The Geologic Time Scale



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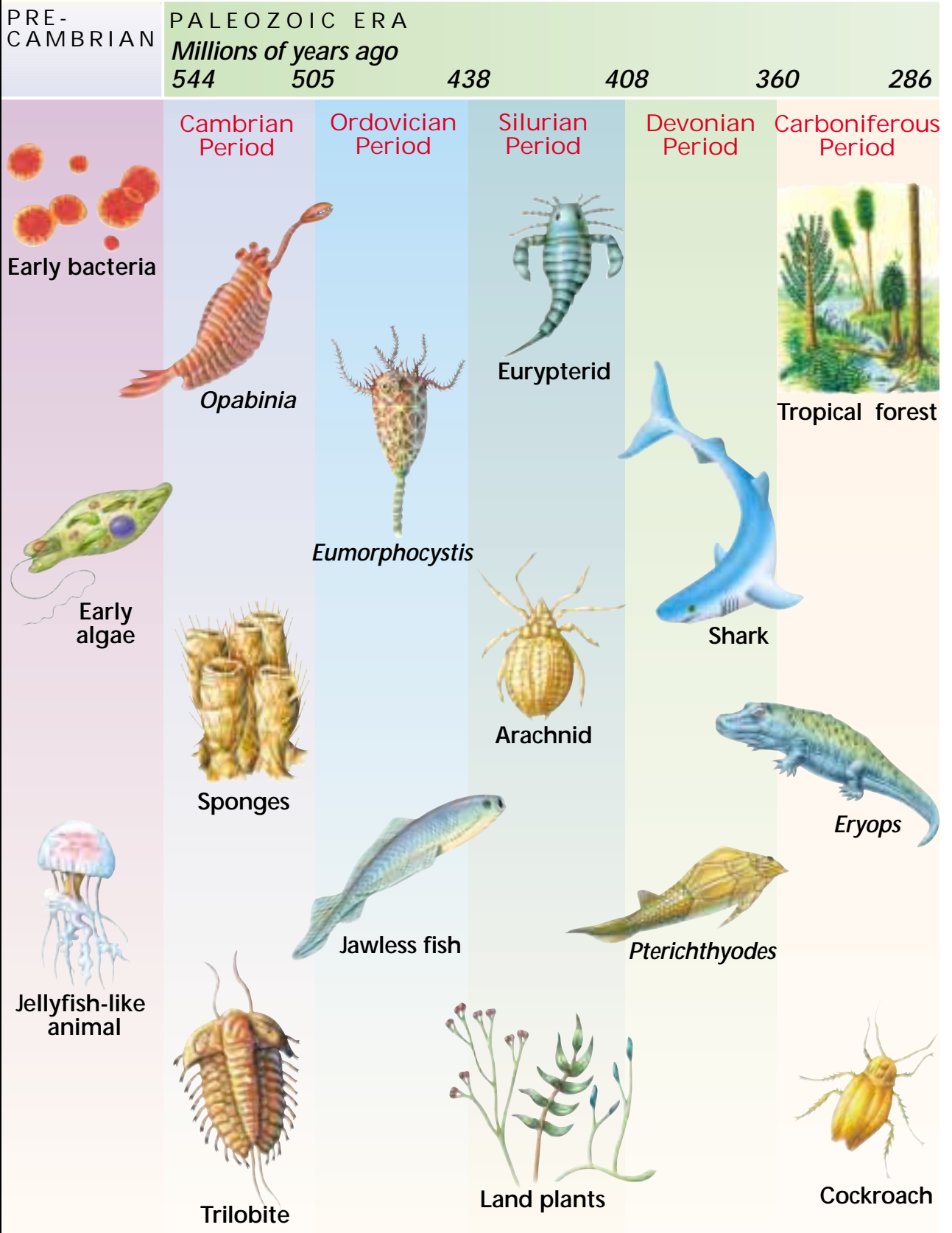
Era	Period	Millions of Years Ago	Duration (millions of years)
Cenozoic	Quaternary	1.6	1.6 to present
	Tertiary	66.4	65
Mesozoic	Cretaceous	144	78
	Jurassic	208	64
	Triassic	245	37
Paleozoic	Permian	286	41
	Carboniferous	360	74
	Devonian	408	48
	Silurian	438	30
	Ordovician	505	67
	Cambrian	544	39
	Precambrian		544 million years ago– 4.6 billion years ago

26 Exploring Life's History (1)



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27 Exploring Life's History (2)



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