

The evolution of apes

Example

Patterns of evolution

The evolution of primates

The evolution of apes

Outline

Example

Patterns of evolution

- Context for evolution

- Patterns of diversity

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- Tools for learning about the past

- Challenges in learning about the past

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TABLE 9.1 The Geological Timescale

Era	Period	Epoch	Period begins (mya)	Notable events
Cenozoic	Quaternary	Recent	0.012	Origins of agriculture and complex societies
		Pleistocene	1.8	Appearance of <i>Homo sapiens</i>
	Tertiary	Pliocene	5	Dominance of land by angiosperms, mammals, birds, and insects
		Miocene	23	
		Oligocene	34	
		Eocene	54	
Mesozoic	Cretaceous	Paleocene	65	Rise of angiosperms, disappearance of dinosaurs, second great radiation of insects
			136	
	Jurassic		190	Abundance of dinosaurs, appearance of first birds
	Triassic		225	Appearance of first mammals and dinosaurs
Paleozoic	Permian		280	Great expansion of reptiles, decline of amphibians, last of trilobites
	Carboniferous		345	Age of Amphibians; first reptiles, first great insect radiation
	Devonian		395	Age of Fishes; first amphibians and insects
	Silurian		430	Land invaded by a few arthropods
	Ordovician		500	First vertebrates
	Cambrian		570	Abundance of marine invertebrates
Precambrian				Primitive marine life

Table 9.1

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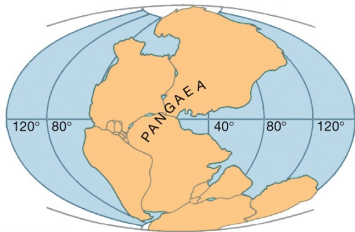
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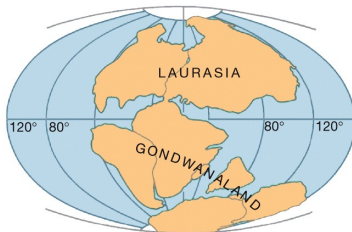
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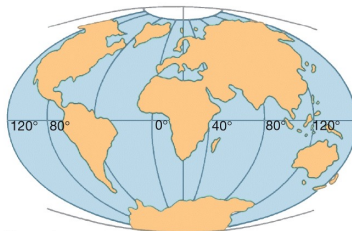


135 mya



65 mya

Figure 9.4



Present

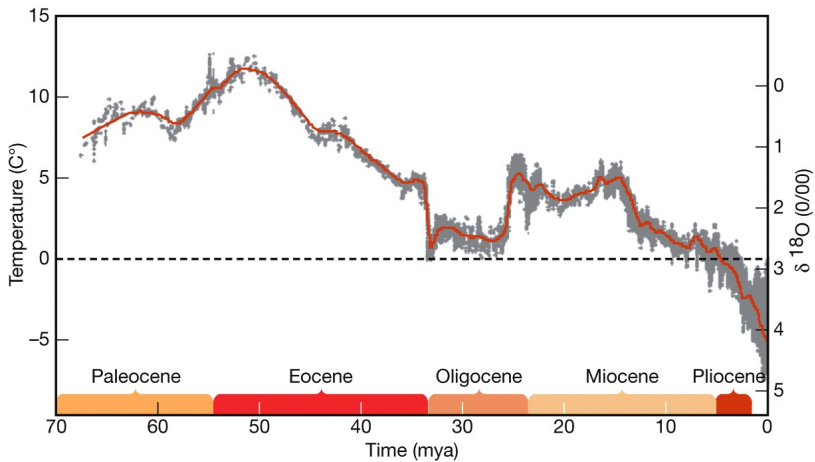


Figure 9.5

Changing ecosystems

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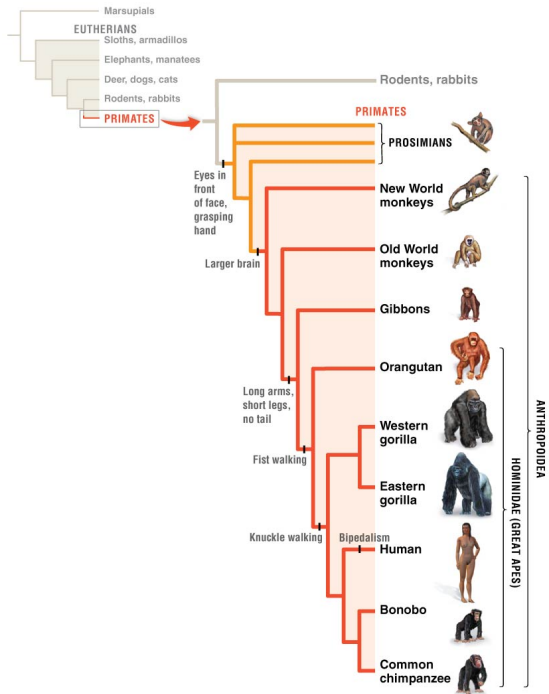
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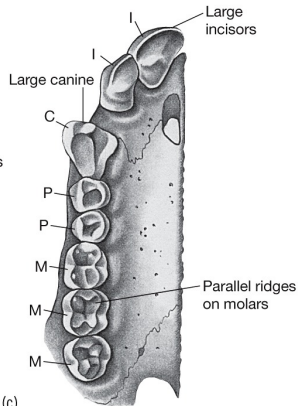
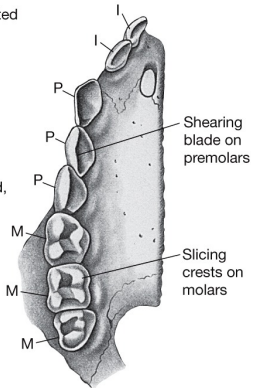
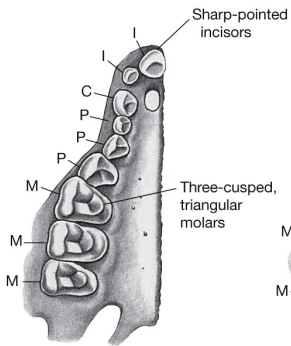
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Figure 9.15

(b)

(c)

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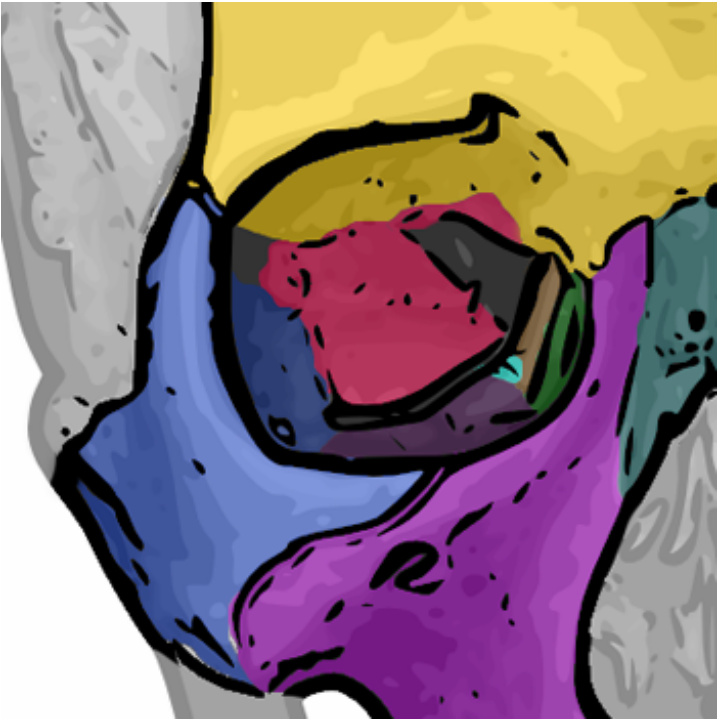
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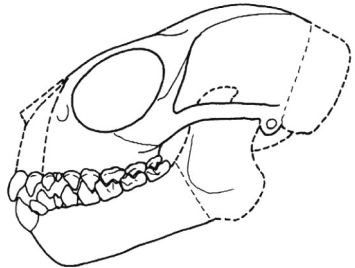
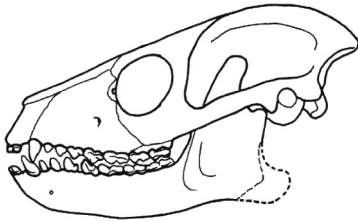
Patterns of diversity

The evolution of primates

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Challenges in learning about the past

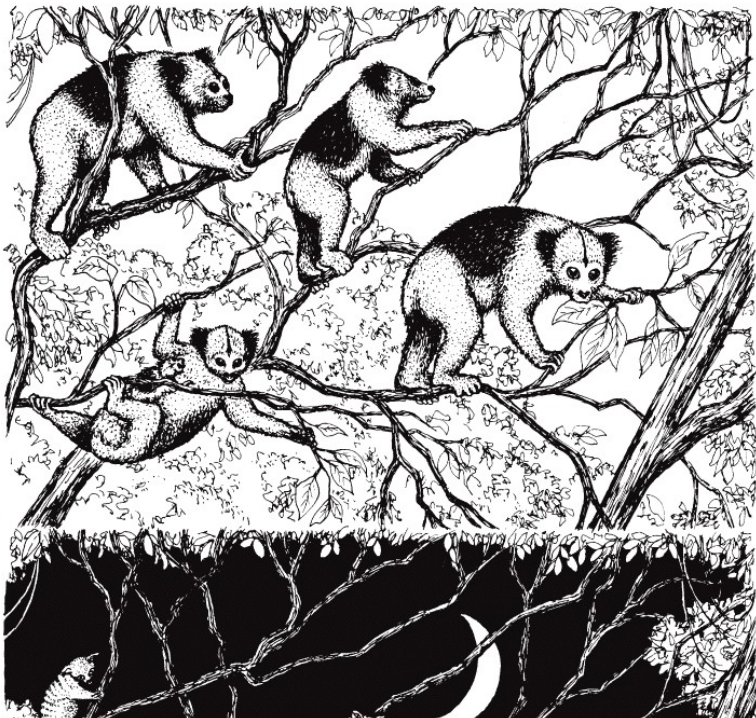
The evolution of apes



(a) Adapids (*Notharctus*)

(b) Omomyids (*Tetonius*)

Figure 9.10



(a)

Interpreting fossil traits

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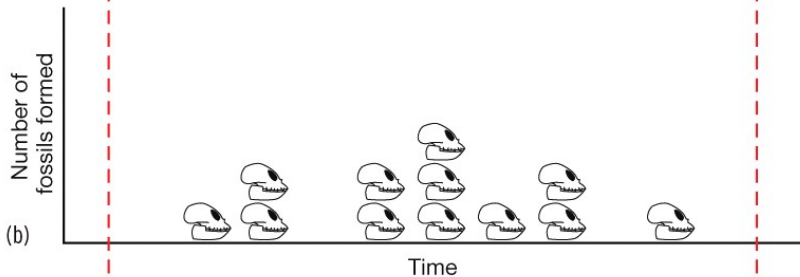
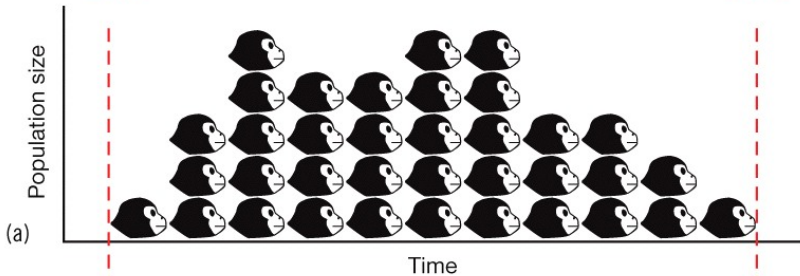
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Species
born

Species
extinct



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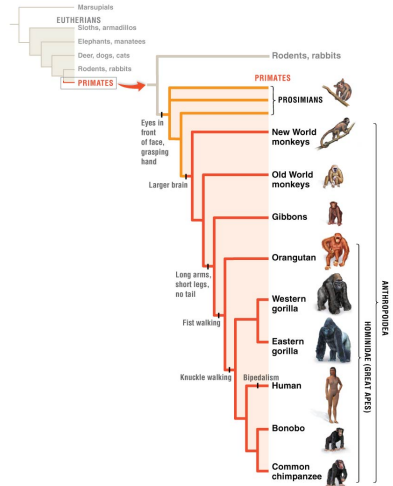
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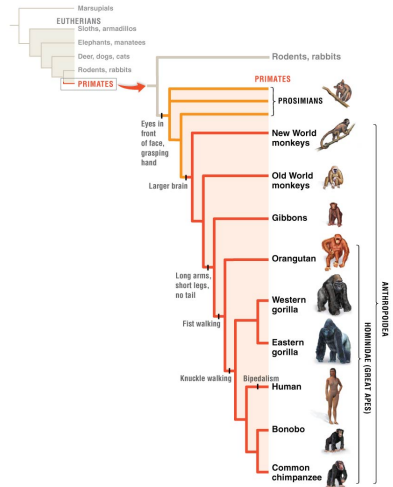
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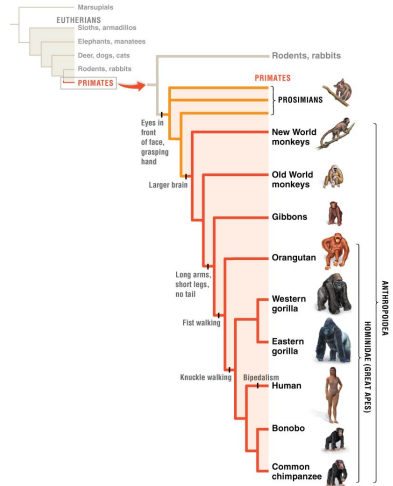
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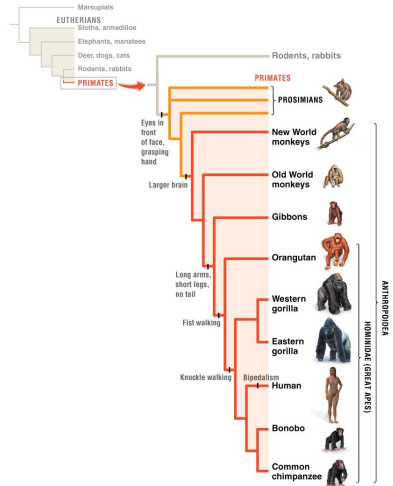
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