

TAKE OUR WEB GEOLOGICAL TIME MACHINE




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Introduction to Geology | Navigating our Geology Wing

(mya = million years ago)

Phanerozoic Eon (543 mya to present)	Cenozoic Era (65 mya to today)	Quaternary (1.8 mya to today) <u>Holocene</u> (10,000 years to today) <u>Pleistocene</u> (1.8 mya to 10,000 yrs) Tertiary (65 to 1.8 mya) <u>Pliocene</u> (5.3 to 1.8 mya) <u>Miocene</u> (23.8 to 5.3 mya) <u>Oligocene</u> (33.7 to 23.8 mya) <u>Eocene</u> (54.8 to 33.7 mya) <u>Paleocene</u> (65 to 54.8 mya)
	Mesozoic Era (248 to 65 mya)	<u>Cretaceous</u> (144 to 65 mya) <u>Jurassic</u> (206 to 144 mya) <u>Triassic</u> (248 to 206 mya)
	Paleozoic Era (543 to 248 mya)	<u>Permian</u> (290 to 248 mya) <u>Carboniferous</u> (354 to 290 mya) <u>Pennsylvanian</u> (323 to 290 mya) <u>Mississippian</u> (354 to 323 mya) <u>Devonian</u> (417 to 354 mya) <u>Silurian</u> (443 to 417 mya) <u>Ordovician</u> (490 to 443 mya) <u>Cambrian</u> (543 to 490 mya) <u>Tommotian</u> (530 to 527 mya)
Precambrian Time (4,500 to 543 mya)	Proterozoic Era (2500 to 543 mya)	Neoproterozoic (900 to 543 mya) <u>Vendian</u> (650 to 543 mya) Mesoproterozoic (1600 to 900 mya) Paleoproterozoic (2500 to 1600 mya)
	Archaean (3800 to 2500 mya)	
	Hadean (4500 to 3800 mya)	

[authors](#)

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#1 = 530 cm
#2 = 530 cm
#3 = 370 cm
#4 = 430 cm
#5 = 415 cm
#6 = 300 cm
#7 = 430 cm
#8 = 300 cm
#9 = 415 cm
#10 = 275 cm
#11 = 275 cm
#12 = 370 cm
#13 = 370 cm
#14 = 275 cm
#15 = 415 cm
#16 = 430 cm
#17 = 300 cm
#18 = 100 cm
#19 = 175 cm
#20 = 100 cm
#21 = 100 cm
#22 = 80 cm
#23 = 50 cm
#24 = 50 cm
#25 = 40 cm
#26 = 2 cm
#27 = 8 cm
#28 = 40 cm
#29 = 4 cm
#30 = 10 cm

What Can Fossils Tell Us About Evolution?

Each group will have two boxes of fossils. One box contains a representative group of fossils from the Cambrian period, mostly from a middle Cambrian location in Utah, but some early Cambrian material as well. The other box contains representative fossils from the Cenozoic period from several different locations. The Cambrian fossils are about 535-500 million years old. The Cenozoic fossils are 55 million years old or less. You should study these fossils and then answer the following questions:

1. How many individual fossils in each box can you identify?
2. What do you think accounts for any differences in your ability to identify fossils from the two boxes?
3. What major group(s) of organisms is (are) absent from the Cambrian box but well-represented in the Cenozoic box?
4. What conclusions about evolution can you make based upon your observations and assumptions about these fossils?
5. What are some of the assumptions about your observations of these fossils that you had to make in order to draw the conclusions in #3?
6. Do you think that the fossils you were given today are, in fact, "representative" or do you think that I "stacked the deck" so that you would draw the conclusions I had in mind? Explain your answer.
7. Some people argue that the Cenozoic fossils are more complex than the Cambrian fossils. Do you agree? If so, how do you defend your argument?
8. Which Cambrian fossils that you observed can still be found today? Which Cenozoic fossils can still be found?

Lemna (duckweed) Population Data Form

Observer _____ Date _____ Time _____

Growth medium: %Pond = _____ %Mineral _____ % Hay infusion _____

Date Time No. Plants %Cover

0620

0621

0622

0623

0624

0625

0626

0627

0628

0629