

Instructions – Read carefully

To complete this homework assignment you will need to visit the Hall of Paleontology at the Houston Museum of Natural Science. This section of the museum was completely redone recently, and has been greatly enhanced by many additional collections. We are fortunate to have this resource in Houston, you will be able to see fossils of many things that I am only able to show pictures of in class. Expect to spend some time going through the exhibits—if you budget two hours that should be enough, although you could easily spend much more time. Unfortunately, the museum isn't free, but there is a coupon on the last page of the assignment that will get you in for half the price of a student ticket. If this still represents an economic hardship for any student, you should come see me as soon as possible.

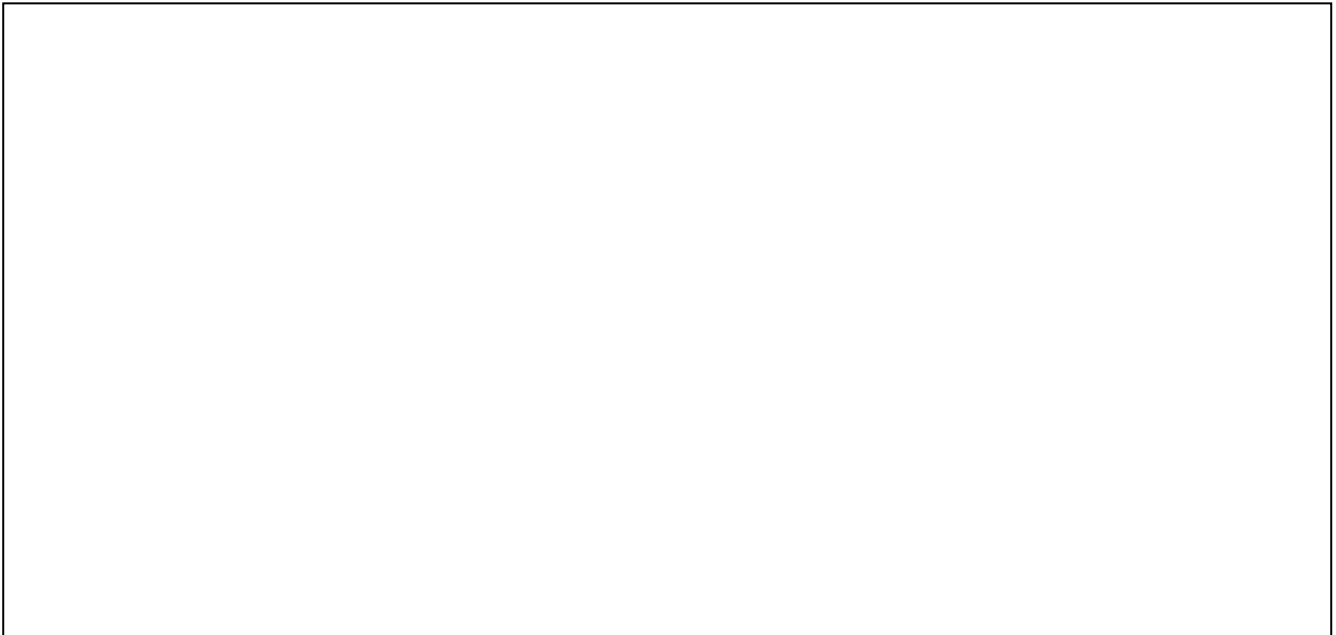
This homework will be turned in via email rather than answered in class via the clicker. To receive credit for your work, you will also need to turn in your museum ticket to me. Write your name and peoplesoft number on the back. I suggest you give it to me directly, rather than putting it in my box, so it doesn't get lost. I must receive your ticket no later than the beginning of class (for the section in which you are registered) on the last class day (December 3rd). This assignment is due on the last day of class, December 5th, by 5 pm. Anything that arrives on my computer after 5 pm will be considered late and not counted. I will only accept the assignment in digital format. You may print out the Word document to take with you, but you must fill in and save the template posted on the course website and email it back to me. The message line should be: Museum Homework. Anything else in the message line may delay the receipt of your completed assignment.

The assignment is worth four points (plus a one-point bonus) and will take the place of your last two weeks of in-class homework (i.e., there will not be another homework assignment during the weeks of Nov 26th and Dec 3rd, although we will still have in-class clicker questions during those weeks). You may complete this assignment at any time, but I will not post any grades until after everyone has turned it in. If you do it soon after the posting, make sure you understand the critical terms for each question (e.g., adaptation). The Hall of Paleontology is arranged chronologically, beginning with the Precambrian and ending with the Recent. The geological time period and the approximate time (in millions of years ago) are at the base of each exhibit wall (near the floor).

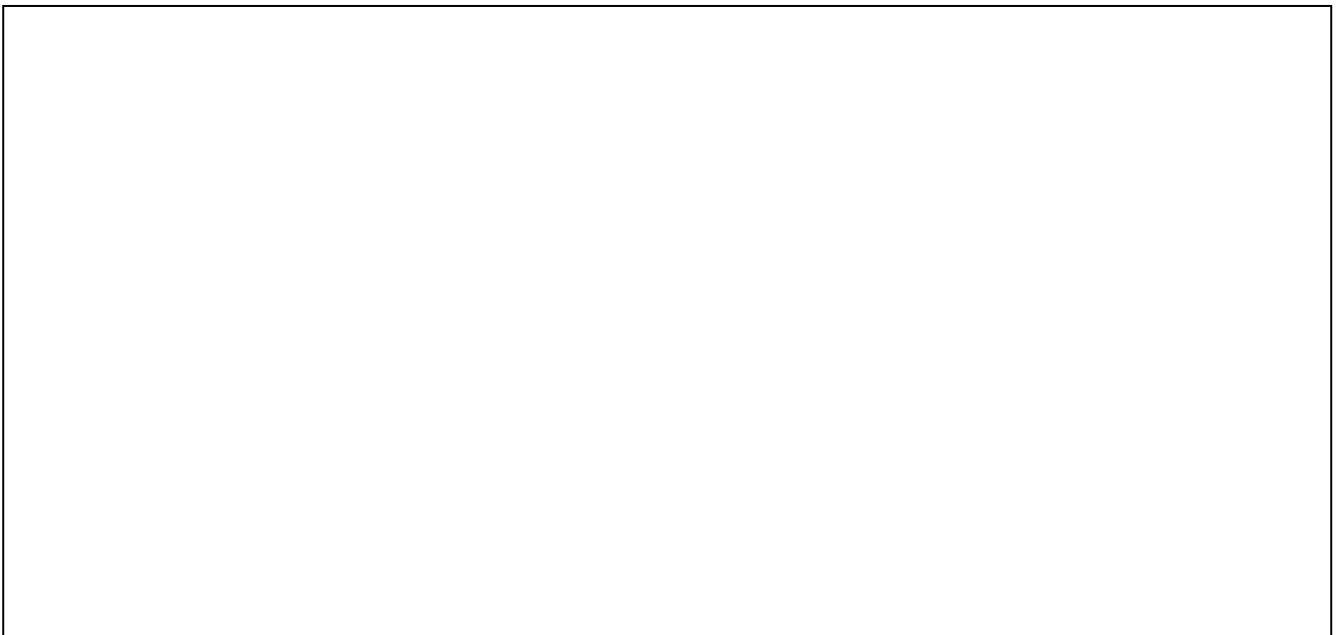
Although the first question starts at the beginning of the exhibit, and the bonus involves the final part, answers to the other questions are scattered through the museum. You will need to look at several exhibits in order to answer some questions. It may be useful to make a very quick circuit through the entire hall to get a sense of how things are arranged. For several of the questions, there are multiple correct answers, but for the bonus, there is only one. Be sure to spell the names of species (Latin binomial) correctly to ensure full credit.

It is fine to visit the museum with other students and discuss the questions and answers. However, be sure that you answer the questions in your own words, as identical answers will be considered plagiarism, which is a violation of the honor code.

Question 1. Go to the start of the exhibit, and look at the examples of stromatolites and the Eidiacaran fauna. These represent the earliest unequivocal fossil evidence of life and multicellular life, respectively. Proceed to the Cambrian, and spend a couple minutes watching the animation of the Burgess Shale fauna. *Anomalocaris*, the great predator of the Cambrian comes by every 5 minutes. Walk through the Cambrian to the Devonian. This time period is dominated by one group, the Trilobites, and the museum has an outstanding collection in terms of quality of the fossils, diversity, and time range. Be sure to note the developmental series for two species. Trilobites undergo several changes in form from the start of the Cambrian to the Ordovician/Devonian. In no more than three sentences, describe **one** of these changes, one possible selective agent for the change, and why that agent would have caused the change you describe.



Question 2. Choose **one** example of convergent evolution: armoured body plating, herbivory, or filter feeding. For your example find three organisms, their geological time period, and the approximate time (mya) that they were alive.



Question 3. We often think of fossils as giving information only on morphology, but in some cases, paleontologists have been able to infer a great deal of information about the organisms biology from fossilized remains. Find **one** exhibit that gives information about an organism's behavior, ecology, or life history. List the organism, the geological time period, and the approximate time (mya). In no more than one sentence, state what the fossil tells us about its behavior, ecology or life history. Be sure that the interpretation is validated by the fossil, not simply stated or implied by the exhibit.

Question 4. There are several examples of adaptive radiation in the Hall of Paleontology. Pick **one** group of organisms, list the group, the geological time period(s) over which the radiation occurred, and the approximate time frame (mya). In no more than two sentences, state what may have led to the adaptive radiation of the group you chose.

Bonus. In an otherwise excellent human evolution exhibit, there is a surprising error. What is it?

theHoustonMuseumofnaturalscience

Discount Coupon code CPV - CCA

Exchange this Coupon at the Museum Box Office and receive your discount rate to any of the following:

Exhibition	Dates	Regular Price	Coupon Rate
HMNS Exhibit Halls at "SUGAR LAND" 281-313-2277	No expiration	\$12	\$ 5
HMNS Exhibit Halls –Morian Hall of Paleontology, New HALL OF Ancient Egypt Wiess Energy Exhibit (#1 in the nation), Space, Egypt, Malacology, Gems & Minerals (#1 in the nation), Hall of the Americas, Africa Wild Life, Chemistry Hall, Texas Wild Life, Dinosaurs and more,,,,	No expiration	\$20	\$ 7
Wortham Giant Screen Theatre 2D & 3D, 45 min films	No expiration	\$12	\$8
Burke Baker Planetarium	No expiration	\$ 8	\$ 6
The Cockrell Butterfly Center	No expiration	\$ 8	\$ 6
Faberge: A Brilliant Vision	Opens 2/1/2013	\$25	\$12
Scenes From the Stone Age: The Cave Paintings of Lascaux	Opens 10/18/2013	\$25	\$15
Spirits and Skeletons Halloween Mixer (October 25th 8pm-12am)	10/25/2013 (8pm-12am)	\$25	\$20

For reservations or information: 713-639-4724 www.hmns.org

Must be exchanged for tickets | Not valid with any other offers or special engagements | Prices subject to change

[Fabergé: A Brilliant Vision Opens 2/1/13](#)

Simply hearing the name Fabergé evokes the splendor and extravagance of late 19th and early 20th century Imperial Russia. The House of Fabergé designed the renowned Imperial Easter Eggs for the Romanov family, as well as an array of objets d'art, luxurious gifts, and practical items for the wealthy patrons of Europe. Visitors can glimpse this grandeur in a special exhibition of Fabergé from the McFerrin Collection. Featuring more than 350 objects, highlights include 2 Fabergé eggs recently added to the collection—the breathtaking Diamond Trellis Imperial Egg and one of the celebrated Kelch Eggs

[Scenes from the Stone Age: The Cave Paintings of Lascaux Opens 2/18/13](#)

The Lascaux cave, now a World Heritage site, has been dubbed the “Sistine Chapel of Prehistory.” Also known as the Lascaux bestiary, its frescos represent many animals, including horses, bulls, deer, ibex, cats, a rhinoceros, and even the legendary unicorn. These pictures are accompanied by enigmatic signs and some human representations, such as a man facing a charging bison, raising new questions about the perception of our prehistoric ancestors.

[Spirits and Skeletons Halloween Mixer October 25th 8p.m.-12a.m.](#)

Be boss on the dance floor, indulge in some serious sweets, and dare to try some creepy crawly concoctions, courtesy of our Bug Chef! After that, abracadabra your way over to our master magician, as he astonishes even the most skeptical with his mysterious magic. This bodacious evening will be the jam - so get amped for Halloween at the Houston Museum of Natural Science! Sample the latest culinary concoctions from various food trucks while enjoying a drink from one of several cash bars. This event is for 21 and up only. For tickets call (713) 639-4724

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