UH Rocks!

A Virtual Field Trip of UH Campus Building Stones

Physical Geology - Fall 2024

Name:

myUH ID number:

Professor’s Name:

Class Time:

# Academic Honesty (Acknowledgement Required)

The UH Rocks! virtual field trip is to be completed by yourself; you should not work with a partner or group. Do **not** search for answers online because 1) it is cheating, 2) the posted answers are incorrect, and 3) questions change every semester. It is a violation of UH Academic Honesty Policy to upload any of this material to sites such as Chegg and CourseHero. If you are unfamiliar with a word or geologic concept, looking it up online to find the correct spelling and definition is okay. If you need help, go to the [Geoscience Learning Center](https://uh.edu/nsm/earth-atmospheric/undergraduate/learning-center/index).

By submitting this work, I, Type Your Name Here attest that I have not violated the UH Academic Honesty code. I completed this assignment by myself and did not copy any portion of my answers from another student, website, or any other source, including AI.

If you submit this material to an online learning platform such as Chegg, Course Hero, or any other education technology website, you violate the UH academic honesty policy and the Creative Commons license.

# Instructions

The buildings, boulders, and sculptures on the University of Houston campus use many geologic materials. This tour takes you to many stops on campus to learn about them. At each stop, you will need to read about the rocks, look at images, and answer questions.

Each location has a short description of the stone and several photos. There are some 3D montages using photos and LiDAR imaging. Be sure that you click on both the photos and link to the 3D images to see the details of the building stones. The process of combining creating these 3D images isn’t perfect; so, some of the 3D images have gaps and irregular edges.

## Accessing the Trip

This virtual field trip was built in Google Earth. [Click here to access the trip](https://earth.google.com/web/data=Mj8KPQo7CiExaXFOVVBlbUNMYU5QRk1rTjZqYlM2QVNuOXpLSmRKeWYSFgoUMEY5Rjg4NjFEQzE2MUZGMTE3REM). The first page that comes up is a summary of building stones. Use the menu on the bottom left to move between stops. At each location, a box with information about each stop and images will appear on the right side of the screen. Click on the pictures to make them larger.

## Written Answers

All answers should be written in complete sentences and typed in the supplied boxes. Your responses will appear in a green-colored font, do not change this. Any answers not written in full sentences will be marked as incorrect and will not receive credit.

Each stop has several questions. Look at the instructions to see how many questions you must answer per stop. You can choose which of the available questions you want to answer. You should have answers to 18 questions for your submission.

## Assignment Submission

All virtual field trips are due by Sunday, November 24. Save your completed Word document as “yourlastname\_firstname\_CampusTourVFT”. Failure to use this naming convention may result in you not receiving credit. Submit your completed document using the following [form](https://forms.office.com/r/9PeLghzTg0), you must be logged into your @cougarnet.uh.edu Microsoft account. Only Microsoft Word and PDF formats are accepted.

**Due Date:** Sunday, November 24

**Submission link:** <https://forms.office.com/r/9PeLghzTg0> (make a separate submission for each VFT you complete)

Teaching Assistants will begin grading submissions after the deadline. After your work is graded, you will receive a confirmation email from a TA. Submissions are graded as pass/fail. If your assignment requires resubmission because of too many incorrect questions, missing answers, or incomplete sentences, you will have 48 hours to do so.

# Introduction Slide

Be sure to read the introduction to the Google Earth trip, it contains important information that can help you answer some questions. Access the trip [here](https://earth.google.com/earth/rpc/cc/drive?state=%7B%22ids%22%3A%5B%221iqNUPemCLaNPFMkN6jbS6ASn9zKJdJyf%22%5D%2C%22action%22%3A%22open%22%2C%22userId%22%3A%22111044525520816793780%22%7D&usp=sharing).

# Stop 1 SR1 Lobby (Answer five of these questions for Stop 1)

## Fake Rock (look at 3D image to find this)

1. What textural features can you use to identify this as a fake rock?

## Sedimentary Rock

1. Was this rock deposited in vertical layers? Explain your answer.

1. Would you use this as a building stone? Explain why or why not.

## Igneous Rock

1. Was this formed in a divergent, convergent, or transform boundary? Remember many rocks can be found in more than one tectonic setting.

1. Is this rock ultramafic, mafic, intermediate or felsic? How can you tell?

## Metamorphic Rock

1. Since this rock is mainly composed of calcite, what could you infer was the protolith of this rock?

1. Marble is often used for decorative purposes. Do you think it would be good for any other use?

# Stop 2 SR1 Mineral Cases (Answer three of these five questions)

This summer, the mineral cases were updated. The changes are mostly cosmetic except we are about to add some UV fluorescent minerals to a case on the second floor.

1. After seeing the movie, have you visited the mineral displays? If not, what should we do to make these more cases interesting?

1. How did the prehnite form?

1. Why did salt originally form with the prehnite?

1. What kind of rock are the dinosaur footprints preserved in?

1. In what class offered by the EAS department would you learn about minerals?

# Stop 4 SR1 Rock Garden (Using the 3D image, answer one of these three questions)

1. There are >5 igneous rocks here. List the extrusive igneous rocks.

1. There are >5 sedimentary rocks here. Many of these are chemical sedimentary rocks. List these.

1. List the numbers for 3 minerals.

# Stop 5 Fleming Ledge (Answer one of these three questions)

1. How old is this granite?

1. Is this a felsic, mafic, intermediate, or ultramafic igneous rock? Explain your answer.

1. What is the name for the black regions in this ledge? Did they form before or after the granite?

# Stop 8 Cullen Hall Lobby (Answer one of these three questions)

1. Breccia means rubble in Italian. Do you think sedimentary processes, tectonic deformation, meteorite impact, or hydrothermal activity formed this breccia? Explain your answer.

1. There are several types of relative dating? Which technique is used to determine relative age in this marble?

1. Describe the differences and similarities between the marbles here, the marble in the SR1 lobby or the 9/11 Memorial at Stop 16.

# Stop 10 Student Service Center Ceiling (Answer one of these three questions)

1. Stalactite is made of calcite. What are some of the characteristics use to identify calcite?

1. Where would you go in Texas to find an example of a natural stalactite or stalagmite?

1. Would you find these stalactites on all the lights in this area? Explain your answer.

# Stop 11 Student Service Center Ledge (Answer one of these three questions)

1. Although the minerals in slate are too small to be seen without a microscope, what platy minerals do you think are present?

1. Do you think this formed deep (more than 3 km) in the Earth? Why?

1. Along what type of plate boundary would slate most likely form?

# Stop 13 Statue of Four Lies (Answer one of these three questions)

1. Watch a [Youtube video](https://www.youtube.com/watch?v=DbJcU5LR_zg) by the two artists as they describe their thoughts about this statue. What would you do to dress up this sculpture?

1. Do these fossils represent the original remains of ancient shelly organisms?

1. How does a fossil mold form?  What are fossil casts?

# Stop 14 Cullen Auditorium Lobby (Answer one of these three questions)

1. Have you ever been to a performance in Cullen Auditorium? If so, describe your experience. Did you notice the rock when you came here before?

1. Why is this called serpentinite?
2. Which two tectonic settings would you likely find serpentinite: divergent, convergent, transform? Explain your answer.

# Stop 17 Cornerstone Melcher Hall (Answer one of these three questions)

1. How is cross-stratification produced?

1. Why do you think this building stone was used for the cornerstone?

1. Are these chemical or detrital sedimentary rocks? Explain your answer.

# Stop 19 Boulder at Library Loading Dock (Answer one of these three questions)

1. Describe the gneiss. Use full sentences.

1. Describe the felsic dike. Use full sentences.

1. During the 200 million years between metamorphism and intrusion of the dike, what happened to gneiss?

# Stop 21 Benches at School of Architecture (Answer one of these three questions)

1. Why did the sculptor choose this granite instead of granite found near Fleming?

1. Have you tried sitting on these artistic benches? If so, describe your reaction to this art work.

1. Do you have a favorite song or artwork similar to this stone bench? Why?

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