

GLG Self-Guided Field Trip: Arizona Science Center Field Trip

Modified (August, 2017) from original Honors Project of Andrea Boucos

Location: 600 E. Washington St., Phoenix, AZ 85004. Although the Science Center is on 6th Street and Washington, the main entrance is on the north side of the building more accessible from Monroe St. Parking garages are nearby. See <http://www.azscience.org> for admission prices and other info. The self-guided field trip begins at the Forces of Nature exhibit on level three and ends in the corridor outside of the “My Digital World” exhibit (see circled sections on the map below). The questions are in order assuming a clockwise path through the Forces of Nature exhibit. Answer the following questions, **attach your admission ticket** to this exercise and turn it in to your lab instructor prior to the semester deadline for assessment of extra credit.

ARIZONA SCIENCE CENTER
Never stop wondering™

LEVEL 4
APS Solar Terrace
Solarville The APS Gallery

LEVEL 3
Sybil B. Harrington Galleries
RFP Canyon Terrace
My Digital World
GLG Field Trip Part 1
GLG Field Trip Part 2 in corridor

LEVEL 2.5
Music Landing
Evans Family SkyCycle
Get Charged Up! The Kemper & Ethel Marley Foundation Gallery
IMAX EXIT

LEVEL 2
All About Me The Steaks Foundation Gallery
Daniel Craochiolo Theater
The W.O.N.D.E.R. Center
Many Hands Make A Home Freeman Gallery
Dorrance Planetarium
Alum Water Spheres and Gears
Virginia G. Piper Welcome Center
IMAX ENTRANCE
Lunch Room

LEVEL 1
Main Entrance just south of Monroe
Awesome Atom's
The Lab Café

Legend:
 E Accessible
 F Dining
 W Drinking Fountains
 V Elevators
 Family Restrooms
 Q Information
 X Restrooms
 Y Ticketing
 S Stairs
 C Concessions
 M Member Zone

GUEST FAVORITES

Making Sense of Your Dollars and Cents
 Level 1 – Freeman Gallery
 Learn about the importance of savings, managing accounts, budgeting and math in a fun, playful and engaging manner.
 Sponsored by JPMorgan Chase

Forces of Nature
 Level 3 – Sybil B. Harrington Galleries
 Experience what it feels like to be in the middle of some of nature's most devastating phenomena in the Forces of Nature Immersion Theater.

Markus Ham Shack
 Level 3 – My Digital World
 A ham shack is an amateur radio station. Why is it called a Ham Shack? No one knows exactly why or how amateur radio became known as ham radios. There are a number of theories. Which one do you believe?

Dorrance Planetarium
 Level 1
 Through cutting-edge Nano-team technology, guests are fully immersed in the imagery of the galaxy and transported on animated journeys through the night's sky, cells, Earth, space and time.

Additional fee applies

Map illustration and design by intparkart

Forces of Nature Exhibit

Plates on the Move

1. According to the exhibit, how many major tectonic plates are there?
2. What does the exhibit state as the cause of the plates' movement?
3. When did the largest earthquake that impacted Arizona occur? Where did it occur? What was its magnitude?
4. According to the exhibit, how many earthquakes occur per year?
5. According to the map, what kind of boundary exists between the Pacific and Nazca Plates?
6. What triggers earthquakes?

Roil and Boil

7. Fill in the blank – The outer core is an extremely hot _____ of liquid iron.
8. According to the exhibit, why does the inner core remain solid?
9. According to the exhibit, which layer is thin, relatively cool, and brittle?
10. What is the difference between magma and lava?

Rocks Go Round

11. What processes are involved in the rock cycle?
12. What elements weather and erode rocks?
13. According to the exhibit, what transforms rocks of all types into metamorphic rocks?
14. According to the exhibit, where is sediment deposited?
15. What types of rocks are formed from this deposition?

Earth Rocks: Take a Closer Look

16. According to the exhibit, how do igneous rocks form?
17. How do extrusive igneous rocks form?
18. How do intrusive igneous rocks form?
19. What are sedimentary rocks?
20. Which sedimentary rocks are shown in this exhibit?
21. Where and how do metamorphic rocks form?

River Erosion

22. What is the human impact of water erosion?

Ocean Erosion

23. When is coastal erosion in North America most active?

Water- the SRP exhibit

24. What are the main reservoirs of the metropolitan Phoenix surface water supply?

25. What are the main canals that transport water into the Phoenix Metro area?

26. Which canal transports water from Lake Pleasant into the Peoria/Glendale area.

The Carbon Exchange

27. What processes put carbon into the atmosphere?

28. What processes remove carbon from the atmosphere?

Wind Shapes the Land

29. What is wind erosion, and how does it shape the landscape?

Exhibits in Corridor near the “My Digital World” exhibit

Panning Vs. Digging

30. What is placer mining?

31. According to this exhibit, what minerals were mined in Arizona?

32. What is the current percentage of yield from these ores?

33. What elements are responsible for the color of turquoise?

34. What are the major mines and areas in Arizona, in which turquoise is found?

35. Which mine is one of the world’s highest producing turquoise mines and where is it located?