

Activities for Exploring the Rotunda Area: Mammoth, Wall Map, Wall Murals, Architecture



By Kenny Karem, Former Falls of the Ohio Foundation Board Member, author of *Probing the Wonders of the Falls*

1. Mammoth Skeleton

The Colombian Mammoth skeleton, a mature male, is a fiberglass replica cast from the actual bones found in Utah. Averaging 20,000 lbs., this extinct mammal roamed the earth about 20,000 years ago. A similar species' bones were also discovered in Kentucky. Notice that mammoths had curved tusks and a hump by the head. As the last glaciers receded from this area about 10,000 years ago and the climate changed, the mammoth disappeared, became extinct and was replaced by its modern-day cousin—the elephant.

1. Compare the front toes and the back toes of the mammoth. Name TWO major differences that you notice?
2. How many bones are in the mammoth's LEFT FRONT foot? (toe bones or tarsal bones).
3. How many rib bones are there? (*Count the rib bones between the front legs and the sternum bone and the back legs*).
4. How many vertebrae bones are there in the backbone (spine) between the front legs and the back legs?
5. Approximately how old are the molars (teeth)? (Hint: You have already been given help with this question. ☺).
6. Use a tape measure and find the approximate length of the LEFT BACK LEG, the LOWER FRONT bone (the fibula). What is its length? Now, using that as a measuring idea, estimate the height of the mammoth from the bottom of its FRONT LEFT HOOF to the top of its body. So what is the mammoth's estimated height?
7. How many mammoth tusks are represented in the rotunda area that are part of the permanent exhibits? (Don't count the cardboard displays and brochures on the table. *(Hint: You have to look in 3 different spots, high and low)*).
8. Make up a good name for the mammoth. If you are part of a group, each person can contribute a name, then have the group vote for the best name. Then, turn in the group's choice to the reception desk.

2. Falls of the Ohio Wall Map Mural

One of the more spectacular exhibits is the Falls of the Ohio wall map mural which shows the rapids, Ohio River and surrounding area before European human habitation altered it with cities, bridges, dams, canals and pollution. Before the dams on the Ohio River changed the water flow patterns and the depth and width of the Ohio River, the Falls of the Ohio was a series of rapids stretching for about 2 1/2 miles, flowing over river bedrock which gradually dropped 26 feet over that distance. The highest waterfall had a drop of about 8 feet and its site is now occupied by the Louisville Gas & Electric Company hydroelectric plant on the Kentucky shoreline.

1. Look in the *lower left hand corner* of the wall mural MAP of the Falls. What are the animals pictured there which used to cross the Ohio River at the Falls during low water periods?

2. Notice along the banks of the river, marshes and creeks of the Falls map, many gray objects laying on top the brown mud. What are they?
3. On the Falls mural map, if you crossed all the rapids from the LEFT shore to the RIGHT shore, what state to the north would you arrive in?
4. On the Falls mural map, if you were traveling on a boat and tried to shoot the rapids through the top channel of rushing water known as the Indiana chute (to the right), name TWO directions your boat would be traveling as it followed that channel across the map.

3. Falls Thematic Murals (top of the rotunda walls)

There are 4 thematic murals decorating the top of the rotunda circular wall in chronological order, beginning with *An Ancient Sea*, then moving to the right. These themes link natural history and human history with the effects of water and land in many forms.

1. Name 2 different mammals that are represented in the murals.
2. What two birds are silhouettes in the murals?
3. In the Ancient Sea mural, what is the general name of the sea life that is most numerous in the image? (*Hint: It is the most common fossil in the fossil beds of the Falls today*).
4. (*Tricky question*) In *The Changing Land* mural, how many bison are there?
5. (*Another tricky question*) On the rotunda wall, how many representations of the Great Blue Heron—a symbol on the logo of the Falls Park—do you see?

4. Rotunda & Building Architecture

From an architectural point of view, the Falls of the Ohio Interpretive Center is a very unusual building, different than probably anything else you have seen. It was planned to be an “environmental” building that blends in with the landscape and its surroundings. The following exploration questions are based on *inside* the rotunda and the *outside* front entrance of the building.

(Inside the rotunda)

1. Notice there are different colors of bricks used inside the rotunda. Why did the architect choose to use different color bricks, instead of all just one color? (*Hint: Think of the surrounding environment around the building outside*).
2. Estimate the height of the rotunda, from the floor to the ceiling. (*Hint: use one person to stand up against the wall and use that person’s height as a measuring stick, then estimate the rest of the height*.)
3. Estimate the diameter (the distance across the rotunda in a straight line) of the rotunda. (*Hint: Figure the length of your foot and step it off from wall to wall*)

***To hear the echo in the rotunda, have someone walk from the Falls mural to the center of the rotunda, talking while they walk.*

(Outside front of the building)

4. The gray limestone slabs above the aluminum doors are slanted. But notice the stone slabs slant downward or upward and are different sizes. Why did the architect design it that way? (*Hint: Think of the surrounding landscape around the building*.)
5. The dark red brown stone is polished granite. Its shape is called a keystone, a design element to make you focus on the front area. Why did the architect use limestone and granite in the design of this particular building? (*Hint: Once again, consider the landscape that surrounds the building*).
6. The height of the bands of bricks varies widely. That was a deliberate design choice of the architect. Why did they do that? (*You can figure this one out without a hint, right?*).

ANSWERS:

Activities for Exploring the Rotunda Area

1. Mammoth Skeleton

1. There are 5 toes in front; 4 toes in back; Also, the toes are different sizes
2. 16 toe or tarsal bones
3. 38 rib bones
4. 15 vertebrae bones
5. About 20,000 years old
6. The fibula is about 40 inches long; the height is about 14 feet
7. There are 5 total tusks. There are two on the mammoth skeleton; one in the glass case, and two in the mural painting of a mammoth at the top of the rotunda in “The Changing Land”.
8. Any answer for the “pet” name of the mammoth is okay.

2. Falls of the Ohio Wall Map Mural

1. Bison (or buffalo)
2. Driftwood
3. Indiana
4. Mainly you would travel NORTH and WEST, and a little bit SOUTH because the channel curves so much. You would NOT travel east.

3. Falls Thematic Murals (at the top of the rotunda wall)

1. Mammoth, bison
2. Heron and hawk
3. Coral
4. 5 in TOTAL: 4 are grazing; plus 1 large silhouette (shadow) of a bison
5. There are a total of 4 Great Blue Heron images.. Two herons are shown on the bronze plaques to the left and right of the glass front doors, one heron in the wall mural, one wooden heron by the entrance of the theater.

4. Rotunda & Building Architecture

1. The rocks in the building reflect the colors of the rocks in the fossil beds, cliffs and shoreline.
2. Its height is about 48 feet.
3. The distance across the rotunda, or the diameter, is about 28 feet.

OUTSIDE

4. At the Falls, some rock layers are uplifted or slanted and not just straight horizontal lines.
5. Limestone is the most common rock of former inland tropical seas and fossils are found in the limestone. Granite rocks were deposited here by retreating glaciers over 10,000 years ago.
6. At the Falls, the natural rock layers are different heights because of different layering of sediment in different geological time periods, so the building reflects the layering or stratification of rocks.