Geology Program Field Trip Basic Lesson Plan

**Title:** How the Water Gets Hot

**Grades**: 4-5

**Length:** 1.5 hours

**Topic:** Introduction to the Hydrology and Geology of Hot Springs National Park

**Summary**:

“How the Water Gets Hot" is a science program to understand the remarkable hydrology and geology story behind the 143-degree hot springs. The program begins on the promenade behind Bathhouse Row, where students will examine evidence of the ancient mountain-building process. Students will then visit several open-air springs to understand the water cycle and the recharge zone, to find clues about the water cycle.

**Arkansas State Standards:**

*4 -ESS1-1****:*** *Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time*

*4 -ESS2-1****:*** *Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.*

*5-ESS2-1****:*** *Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.*

**Next Generation Science Standards:**

*4-ESS1-1*, *4-EES2-1, 4-ESS2-2*, *5-ESS2-1*, *MS-ESS2-4*

**Essential Question:**

How can the shape of the Ouachita Mountains help create the Hot Springs?

**Objectives**

* *Students will be able to identify evidence of plate tectonics and mountain building events can be found within the national park.*
* *Students will be able to explain how a water droplet that falls in the nearby mountains will emerge in the hot springs.*
* *Students will be able to test for and identify characteristics in the water that are markers of the 4,400-year-old groundwater journey.*