

# SINKING INTO KARST

## SUMMARY

This program is intended to exhibit examples of the karst landscape on a walking tour of the park. Students will learn about different features of the karst geography and how they form.

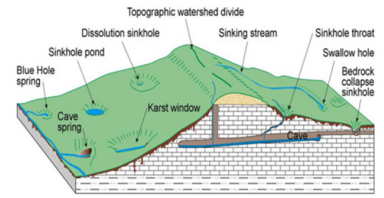
**GRADE LEVEL:** 4-5

**ACTIVITY DURATION:** 1 hour

**SETTING:** Outdoors, along trail system.

**SUBJECT AREAS:** Earth's Systems, Earth Sphere Interactions, Earth and Human Activity

**NGSS:** 4-ESS1-1, 4-ESS2-1, 5-ESS2-1, 5-ESS3-1



**OBJECTIVES:** This program is designed to be a talk and hike. The goal is to encourage the students to observe the areas around them and ask questions. By the end of the program, they should have a better understanding of:

- What Karst is
- How Karst features form
- Hydraulic connections between Karst features
- Be able to recognize Karst features they see in their daily lives

**COOPERATIVE APPROACH:** This program works great with the *Cave Boat Tour* by providing students with a view of karst from both the surface and subsurface. This program can also work well with the *Geology Rocks* Program as the hands-on experiments provide a basis for understanding the chemical erosion of limestone that creates karst features.

**MAKING CONNECTIONS:** Most students have seen sinkholes and know there are caves in the area. They may have even been in a cave before, or have a sinkhole on their property. However, few children understand how sinkholes and caves form and how they are connected to the water underground. Hiking the Lost River Cave property and visiting various karst features will help them identify features of a karst area as well as understanding the sensitive connections to the surface and subsurface.

**ALTERATIONS:**

### GRADES K-3

Without changes, this program may be too intense for a K-2 audience. Therefore to provide a K-2 group with the *Sinking into Karst* program, several alterations would be required. Changes would include:

- Shortening the tour to only 30 minutes by reducing the interpretive stops to only three locations: The Sinkhole, The Wetland, and Bluehole 3.
- Altering the content of the discussion at each stop to appeal to the K-2 knowledge base.

### GRADES 6-12

Without changes, this program may not reach the expectations of the 6-12 knowledge base. Therefore, to provide grades 6-12 with the *Sinking into Karst* program, program guides will incorporate more in-depth information pertaining to chemistry and biology. It is recommended that one of the STEM extensions also be applied.

**EXTENSION:** The *Sinking into Karst* program can be extended into a longer program in which principles of STEM, Science, Technology, Engineering, and Math are applied. Such extensions can include:

Add *A Model Water Shed*, *How Wetlands Work*, and/or *Water Quality Parameters*, where students investigate the cleaning power of a wetland to improve the quality of the water prior to it entering the cave.

**VOCABULARY: BEDROCK, GROUNDWATER, AQUIFER, KARST**