

CAVE CREATURES

SUMMARY

The Cave Creatures program teaches children about how the environment can alter the behavior, physiology, and chemical response of organisms that visit, live in, and depend on the cave environment. Upon learning how these adaptations work, teams of students work together to determine in what category cave organisms fit based on their level of adaptations.

GRADE LEVEL: 3-12

PROGRAM DURATION: 1 hour

SETTING & ACTIVITY: Classroom; Effective Lecturing, Cooperative Learning

OBJECTIVES: This program uses a classroom lecture and visuals to introduce students to the remarkable underground world. Adaptations resulting from the extreme cave environment are explored. Students test their knowledge by examining cave creatures to determine how adapted they are. Following the program students should be able to:

- Explain three different ways animals interact with the cave as a habitat.
- Name at least one classification of cave organism.
- Determine an organism's place in the cave by its physical, behavior, or physiological traits.

KAS: 3-LS3-1, 3-LS3-2, 3-LS4-2, 3-LS4-3, 3-LS4-4, 4-LS1-1, 4-LS1-2, MS-LS1-5, MS-LS2-2, HS-LS4-4

FORGING ASSOCIATIONS: The program content can be used as a transition or extension between associated standards. Some examples include:

- 3-LS1-1: Cave organism life cycles can be compared to other organisms.
- 3-LS2-1: Cave Creatures have less competition than their surface counterparts. Comparing the sharing mentality of underground organisms with the competition-driven surface dwellers can help see the benefit of forming groups.
- 4-PS4-3: Vibration sensors on many fully adapted cave organisms can be one of the comparative solutions.
- 5-PS3-1: Extend the transfer of energy model to include the cave organisms' foods.
- MS-LS2-1: Due to the limited resource availability in a cave environment, organisms and populations underground act differently than their surface counterparts.
- MS-LS2-3, HS-LS2-4: The cave's ecosystem offers a unique look at the cycling of matter and flow of energy.
- MS-LS4-6, HS-LS2-8, HS-LS3-2, HS-LS4-2, HS-LS4-3: This introduction to a unique environment provides a great foundation for studies that investigate how group behavior, advantageous and inheritable genetic variation, natural selection and evolution can help species adapt and survive.

COLLABORATIVE PROGRAMS: When paired with the *Guided Cave Tour* or *Immersion Off-trail Tour*, students can experience the cave environment in which Cave Creatures live. Both programs, *Where does all the Pollution go?* And *Water Quality* can help students understand the importance of healthy waters for cave creatures. In *ECO Engineers* students brainstorm practices that protect the health of groundwater ecosystems. Interactive displays in the *Museum* provide additional information.

