



Let's make Karst Cake!

Educator Guide

Lesson summary: students make a layer cake to learn about how water flows through rock.

Estimated time to complete the activity: 90 minutes with help from an adult.

Subjects covered: geology, geography, biology, hydrogeology, and history.

Safety considerations: the activity requires adult supervision because it involves the use of an oven and kitchen tools.

Grade levels: the activity is well-suited for elementary and middle-school students.

Academic standards (Next Generation Science Standards):

- Addressed in the Karst Cake **activity**:
 - MS-ESS2-2 Earth's Systems: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
 - MS-ESS2-4 Earth's Systems: Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
 - HS-ESS2-5 Earth's Systems: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.
- Addressed in the Karst Cake **videos**:
 - 2-ESS2-3 Earth's Systems: Obtain information to identify where water is found on Earth....
 - K-ESS3-3 Earth and Human Activity: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.
 - MS-LS2-4 Ecosystems: Interactions, Energy, and Dynamics: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
 - HS-LS2-6 Ecosystems: Interactions, Energy, and Dynamics: Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.



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