Edible Aquifers

3rd-8th Grade  Water Discovery Field Trip Program

Objective
To learn about aquifers, a process of pumping groundwater to the surface by wells to provide us with a clean water supply, and the impact of pollutants on groundwater through the means of hands-on experimentation.

Overview
Students will learn about aquifers, groundwater and pollutants. The students will create an edible model of an aquifer, which includes groundwater (clear soda), sand and gravel (cookie crumbs), rocks (gummy bears), and clay (ice cream). Students will then simulate how “pollutants” (sprinkles) enter an aquifer. Then, using a straw, students will “drill” a well in the middle of their aquifer to simulate how water is pumped from the aquifer. A discussion on pollution sources will be included.

Note: This activity is available to field trips of 30 students or fewer.

Length of Time
20-30 minutes

Next Generation Science Standards* Connections

3rd Grade  3-ESS3 Earth and Human Activity
4th Grade  4-ESS2 Earth’s Systems
          4-ESS3 Earth and Human Activity
5th Grade  5-ESS2 Earth’s Systems
Middle School MS-PS3 Energy
         MS-LS2 Ecosystems: Interactions, Energy, and Dynamics
         MS-ESS2 Earth’s Systems
         MS-ESS3 Earth and Human Activity

Common Core State Standards Connections

3rd Grade  ELA/Literacy  W.3.1, W.3.7
          Mathematics  MP.2, MP.4
4th Grade  ELA/Literacy  RI.4.1, RI.4.7, RI.4.9, W.4.7, W.4.8
          Mathematics  MP.2, MP.4, MP.5, 4.MD.A.1, 4.MD.A.2, 4.OA.A.1
5th Grade  ELA/Literacy  RI.5.7, W.5.8, SL.5.5
          Mathematics  MP.2, MP.4, 5.G.A.2
Middle School ELA/Literacy  RST.6-8.1, RST.6-8.3, RST.6-8.7, RST.6-8.8, RST.6-8.9, RI.8.8, WHST.6-8.1, WHST.6-8.2, WHST.6-8.7, WHST.6-8.8, WHST.6-7.9, SL.8.1, SL.8.4, SL.8.5

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