



# FREDDY THE FISH

KC Water offers water quality education to students of all ages. All lessons can be modified for various grade-levels to meet science standards and are free of charge to schools, residents, and businesses in Kansas City. Schedule a lesson at [water.education@kcmo.org](mailto:water.education@kcmo.org).




**OVERVIEW:** Students participate in the story of Freddy the Fish and his journey from Kansas City to the ocean. As Freddy encounters human activities along the way that are polluting his stream, students add various substances to the water to represent different kinds of pollution. At the end of the story, students discuss how water must be cleaned before humans can drink it, and what they can do to keep pollution out of creeks, streams, and rivers.

**TOTAL CLASS TIME:** Approximately 1 hour

**KEY COMPONENTS:** Introduction includes rain, groundwater, and stormwater runoff with pollution. Main story includes Freddy the Fish, human influence on environment, and pollution in water. Conclusion includes summary of overall lesson also relates to standards for Language Arts and Social Studies.

**KEY VOCABULARY:** Groundwater, stormwater, runoff, pollution, storm drains, roots, concrete, pesticide, fertilizer, littering



Water  Quality  
**EDUCATION**

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## NEXT GENERATION SCIENCE STANDARDS / MISSOURI LEARNING STANDARDS

<u>PHYSICAL SCIENCE</u>		Grade K	Grade 1	Grade 2
PS1 - Matter and Its Interactions	A - Structure and Properties of Matter	K.PS1.A.1		2.PS1.A.1

<u>EARTH and SPACE SCIENCE</u>		Grade K	Grade 1	Grade 2
ESS2 - Earth's Systems	C- The Role of Water in Earth's Surface Processes			2.ESS2.C.1
	D- Weather and Climate		1.ESS2.D.1	
	E- Biogeology	K.ESS2.E.1		
ESS3 - Earth and Human Activity	C- Human Impacts on Earth's Systems	K.ESS3.C.1		

<u>LIFE SCIENCE</u>		Grade K	Grade 1	Grade 2
LS1 - From Molecules to Organisms: Structure & Process	C- Organization for Matter and Energy Flow in Organisms	K.LS1.C.1		

<u>ENGINEERING TECHNOLOGY and the APPLICATION OF SCIENCE</u>		Grade K	Grade 1	Grade 2
ETS1 - Engineering Design	A- Defining and Delimiting Engineering Problems	K.ETS1.A.1	1.ETS1.A.1	2.ETS1.A.1