



WATER QUALITY TESTING

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.



OVERVIEW: Students are introduced to various components and substances found in our water ways and how they are used to determine water quality. Students learn about the general research methods through water testing, assessment tools and data collection, and descriptions of a healthy water source. Connections are made as to how stormwater runoff negatively impacts these waterways. Students become familiar with the physical characteristics of water and their levels of pollution through data analysis. KC Water provides all necessary equipment and supplies for this activity.

TOTAL CLASS TIME: Approximately 1.5 hour. This is a two day lesson: Day one of lessons is conducted at a water site and day two of lessons is conducted in the classroom. It can also be completed in the classroom as a one day lesson.

KEY COMPONENTS: Introduction includes the characteristics of water and healthy water ways. Main component focuses on completing various tests of water quality and collecting data. Conclusion engages students in understanding data to assess overall water quality. In addition to NGSS/MLS, this lesson also relates to standards for Mathematics and Social Studies.

KEY VOCABULARY: Phosphates, nitrates, coliform, dissolved oxygen, conductivity, and turbidity



Water Quality
EDUCATION

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NEXT GENERATION SCIENCE STANDARDS / MISSOURI LEARNING STANDARDS

PHYSICAL SCIENCE		Grade 5	Grade 6-8	Grade 9-12
PS1 - Matter and Its Interactions	A - Structure and Properties of Matter	5.PS1.A.1	6-8.PS1.A.2	9-12.PS1.A.2
				9-12.PS1.A.3
				9-12.PS1.A.4
	B - Types of Interactions of Matter	5.PS1.B.2		
PS2-Motion & Stability: Forces & Interactions	C - Nuclear Process			9-12.PS1.C.1
	B-Types of Interaction	5.PS2.B.1		
LIFE SCIENCE		Grade 5	Grade 6-8	Grade 9-12
LS2-Ecosystems: Interactions, Energy, & Dynamics	A- Interdependent Relationships in Ecosystems		6-8.LS2.A.1	9-12.LS2.A.1
			6-8.LS2.A.2	HS-LS2-7
	B-Cycles of matter and Energy Transfer in Ecosystems	5.LS2.B.1		9-12.LS2.B.1
	C-Ecosystem Dynamics, Functioning and Resilience		6-8.LS2.C.1	9-12.LS2.C.1
			6-8.LS2.C.2	9-12.LS2.C.2
				HS-LS2-7
EARTH and SPACE SCIENCE		Grade 5	Grade 6-8	Grade 9-12
ESS2 - Earth's Systems	A- Earth Materials and Systems	5.ESS2.A.1		
			6-8.ESS2.A.2	9-12.ESS2.A.2
	C- The Role of Water in Earth's Surface Processes	5.ESS2.C.1	6-8.ESS2.C.1	9-12.ESS2.C.1
	D- Weather and Climate			9-12.ESS2.D.1
ESS3 - Earth and Human Activity	A- Natural Resources			9-12.ESS3.A.1
				9-12.ESS3.A.2
	C- Human Impacts on Earth's Systems	5.ESS3.C.1	6-8.ESS3.C.1	
				9-12.ESS3.C.2
			6-8.ESS3.D.1	
				9-12.ESS3.D.2
ENGINEERING TECHNOLOGY and the APPLICATION OF SCIENCE		Grade 5	Grade 6-8	Grade 9-12
ETS1 - Engineering Design	A- Defining and Delimiting Engineering Problems	5.ETS1.A.1	6-8.ETS1.A.1	9-12.ETS1.A.1
				9-12.ETS1.A.2
	B- Developing Possible Solutions	5.ETS1.B.1	6-8.ETS1.B.1	9-12.ETS1.B.1
	C- Optimizing the Solution Process	5.ETS1.C.1		