



# TRASH TALLY

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 revisit the water cycle topic with the focus of stormwater runoff. They become familiar with the most common types of trash found on the ground in Kansas City and how stormwater can carry that trash to the nearest waterway. A quick tour of the school grounds to point out storm drains and slope followed by students using data sheets to tally the types of trash they observe on the ground. Back in the classroom, students add up the tallies, find an average, and create a bar graph to show the comparisons of the types of trash found around their school property. The lesson concludes with a discussion of why it is so important to keep trash off the ground and what they can do to caution others against littering.

**TOTAL CLASS TIME:** Approximately 1 hour

**KEY COMPONENTS:** Introduction includes the water cycle and revisits the topics of groundwater and stormwater runoff with pollution. Main story covers pollution and tallying trash, calculating pollutants found in the area, and averaging totals. Conclusion engages students in discussion regarding observations on pollution and water runoff. In addition to NGSS/MLS, this lesson also relates to standards for Language Arts, Mathematics, and Social Studies.

**KEY VOCABULARY:** Groundwater, stormwater, runoff, saturated, storm drains, roots, concrete/cement/pavement, pervious, impervious, gravity, pollutants, tallying



Water  Quality  
EDUCATION

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## NEXT GENERATION SCIENCE STANDARDS / MISSOURI LEARNING STANDARDS

<u>PHYSICAL SCIENCE</u>		Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
PS1 - Matter and Its Interactions	A - Structure and Properties of Matter	K.PS1.A.1		2.PS1.A.1			
	B - Types of Interactions of Matter			2.PS1.A.2			5.PS2.B.1
PS2 - Motion and Stability: Forces & Interactions	A- Forces and Motion				3-PS2-2	4.PS2.A.1	

<u>EARTH and SPACE SCIENCE</u>		Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
ESS2 - Earth's Systems	E- Biogeology	K.ESS2.E.1					
	B- Natural Hazards				3.ESS3.B.1		
	C- Human Impacts on Earth's Systems	K.ESS3.C.1					5.ESS3.C.1

<u>LIFE SCIENCE</u>		Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
LS3 - Heredity: Inheritance & Variation of Traits	D- Biodiversity and Humans					3.LS3.D.1	

<u>ENGINEERING TECHNOLOGY and the APPLICATION OF SCIENCE</u>		Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
ETS1 - Engineering Design	A- Defining and Delimiting Engineering Problems	K.ETS1.A.1	1.ETS1.A.1	2.ETS1.A.1	3.ETS1.A.1	4.ETS1.A.1	5.ETS1.A.1
	B- Developing Possible Solutions				3.ETS1.B.1	4.ETS1.B.1	5.ETS1.B.1