

Science Grade 11 A

Grade Level Standard(s): HS Science Earth Science: Use evidence from an investigation to explain the interaction between the properties of water (e.g. expansion when freezes, high specific heat, capacity to absorb or release heat, water as a solvent, ability to transport materials) and its effects on Earth’s materials and surface processes.

Material(s) Provided for Science 4 A	Question(s)	Page Number
Science 11 A Video Clip 2 Cracked Sidewalk	3	OTS Download and USB Drive
Science 11 A Attainment Task Questions for Student Use	1-5	15

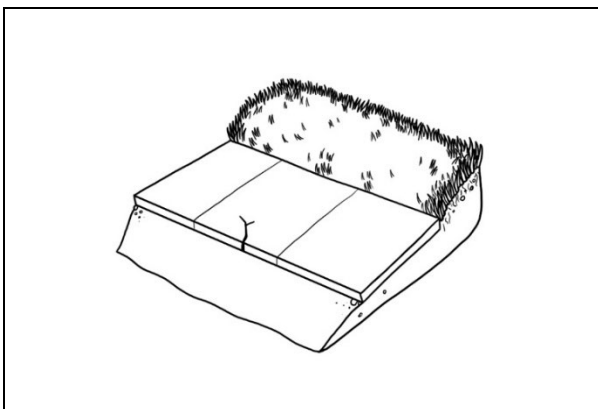
Response Code:

- Indicate the answer provided by the student.

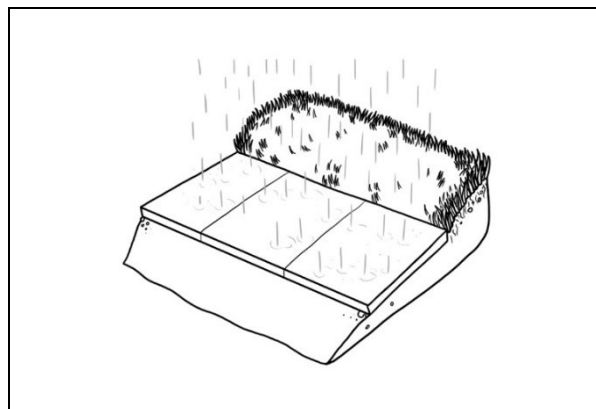
Text Coding:

- “Quotation marks” indicate the script that the teacher should read to the student.
- *Italicized text* provides further direction for the test administrator.
- Words in parenthesis () are optional; they may replace or be read in addition to the word(s) immediately preceding.

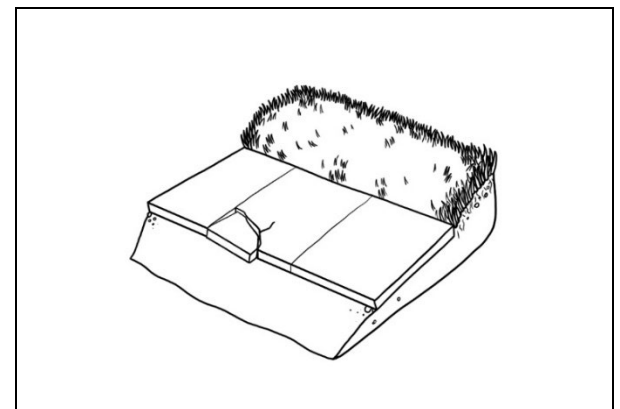
a. There is a crack in the sidewalk.



b. Rain is falling from above.



c. One side of the sidewalk collapsed.



Before beginning task administration, please ensure that all conditions specified in the administration protocol (starting on page 10 of the Administration Guide Overview and Attainment Task Administration) have been met. Inform the student that the task is about to start by saying, “We are about to start the task, and I am going to ask you some questions.”

All questions from this task are available for presentation to the student in the supplemental material [Science 11 A Attainment Task Questions for Student Use](#).

“Eddie notices changes in the sidewalk as he goes to school throughout the year.”

Play [Science 11 A Video Clip 2 Cracked Sidewalk](#) for the student.

3. “What evidence can be found in the video clip to support the claim that water has the ability to transport materials?”

Response Option	<i>Response Rationale</i>
a. There is a crack in the sidewalk.	<i>The student identifies a crack in the sidewalk but does not recognize how water may transport materials.</i>
b. Rain is falling from above.	<i>The student recognizes that rain is water but does not understand how the rain may transport materials.</i>
c. One side of the sidewalk collapsed. (Correct)	<i>The student demonstrates an understanding of the properties of water by identifying that if water transports materials from under the sidewalk, it will collapse.</i>
<i>Depth of Knowledge (DOK) 3</i>	

Science 11 A Attainment Task Questions for Student Use

3. What evidence can be found in the video clip to support the claim that water has the ability to transport materials?

Kentucky Academic Standard: Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes. [Clarification Statement: Emphasis is on mechanical and chemical investigations with water and a variety of solid materials to provide evidence for the connections between the hydrologic cycle and system interactions commonly known as the rock cycle. Examples of mechanical investigations include stream transportation and deposition using a stream table, erosion using variations in soil moisture content, and frost wedging by the expansion of water as it freezes. Examples of chemical investigations include chemical weathering and recrystallization (by testing the solubility of different materials) or melt generation (by examining how water lowers the melting temperature of moist solids).] HS-ESS2-5

Alternate Assessment Target: *Use evidence from an investigation to explain the interaction between the properties of water (e.g., expansion when freezes, high specific heat, capacity to absorb or release heat, water as a solvent, ability to transport materials) and its effects on Earth’s materials and surface processes.*

Student Group	Number of Students	Percent Correct
All Students	500	56.40%
Gender		
Female	161	55.28%
Male	339	56.93%
Ethnicity		
African American	52	55.77%
American Indian or Alaska Native	<10	Not Reported
Asian	<10	Not Reported
Hispanic of Latino	<10	Not Reported
Native Hawaiian of Pacific Islander	<10	Not Reported
White (Non-Hispanic)	398	56.03%
Two or More Races	42	64.29%
English Learner	28	50.00%
Economically Disadvantaged	389	58.10%

*Number of students that attempted the item