Creekside Clues

Use geographic evidence to plan for heavy rain

6.C.1.2.C "Use different types of maps, graphs, charts, and geographic tools, such as satellite imagery and Geographic Information System (GIS) technology to draw conclusions and make predictions from geographic data."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each geographic tool named in the passage, then underline two details that could help predict where flooding might occur.

Planning for a Rising Creek

1 Clearwater's planners want to know which places need protection during heavy rain. A satellite image from 2019 shows a grassy field above the creek. An image from 2025 shows a paved parking lot in the same place. Satellite images let planners spot changes on the ground, but they cannot show exactly where rainwater will go.

2 A Geographic Information System (GIS) can stack different kinds of location data in layers. Clearwater's elevation layer shows that the school walkway lies below the parking lot, close to the creek. The library stands on higher ground. The town closes the walkway when the creek reaches 2.0 meters or more. These sources can help planners predict runoff.

3 Each afternoon, a rain gauge records that day's rainfall, and a sensor records the creek's height. The table gives four days of measurements at the same creek station. These records show conditions during one week, not a rule for every storm. A forecast can be stronger when planners compare the measurements with satellite images and GIS layers.

CLEARWATER RAIN AND CREEK READINGS

Day	Rainfall (cm)	Creek height (m)
Monday	0	0.7
Tuesday	1	0.9
Wednesday	3	1.5
Thursday	5	2.1

2 ANSWER WITH EVIDENCE

Use the passage

1. What pattern do you notice in the rainfall and creek height from Monday through Thursday?

2. On which day would the town close the school walkway? Use the table and the town's rule to explain.

3. How do the satellite images and the GIS elevation layer together help planners predict a possible risk near the school walkway?

4. During a storm like Thursday's, which is a safer gathering place, the library or the school walkway? Use the elevation layer and the table to support your choice.

3 YOUR TURN

Your own words

Choose a new GIS layer Clearwater could add, such as storm drain locations or building entrances. In three sentences, explain what it would show, use one fact from the table and one fact about the satellite images or elevation layer, and predict a new place that may need protection during another storm.

ANSWER KEY

Creekside Clues

GRADE 6 · 6.C.1.2.C

PART 1 · READ AND MARK

Circle each geographic tool named in the passage, then underline two details that could help predict where flooding might occur. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What pattern do you notice in the rainfall and creek height from Monday through Thursday?	**Both rainfall and creek height increase each day.**
2	On which day would the town close the school walkway? Use the table and the town's rule to explain.	**Thursday. The creek reaches 2.1 meters, which is above the 2.0-meter closing level.**
3	How do the satellite images and the GIS elevation layer together help planners predict a possible risk near the school walkway?	**The images show that a grassy field became a paved lot. The elevation layer shows that the walkway is lower than the lot and near the creek, so runoff may reach the walkway.**
4	During a storm like Thursday's, which is a safer gathering place, the library or the school walkway? Use the elevation layer and the table to support your choice.	**The library is safer because it stands on higher ground. On Thursday, the creek reached 2.1 meters, high enough for the town to close the low walkway.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would add a GIS layer showing storm drain locations near the parking lot. The satellite images show that the lot replaced a grassy field, and the table shows 5 cm of rain on Thursday. If drains near the lot are blocked during a similar storm, the lot's entrance may collect water and need protection.

Accept predictions that name a new GIS layer, accurately use one table fact and one image or elevation fact, and explain a reasonable risk at a place other than the school walkway.