After the Storm

Use location evidence to evaluate a supply route.

WG.1.1 "Use locational technology such as longitude, latitude, and remote sensing, Global Positioning Systems (GPS) and Geographic Information Systems (GIS), to establish spatial relationships."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle the three building coordinate pairs, underline two statements that compare locations, and number the first mentions of GPS, remote sensing, and GIS in reading order to trace how the workers make their decision.

Choosing a Pickup Site

1. At the fictional coastal town of Marsh Point, emergency workers must choose where to place a supply pickup site after a storm. GPS logs place the clinic at 29.80° N, 90.00° W; the school at 29.84° N, 90.00° W; and the warehouse at 29.82° N, 90.03° W. A larger north latitude means a site lies farther north. At these locations, moving from 90.03° W toward 90.00° W means moving east. The coordinates show that the school is north of the clinic and the warehouse is west of both. GPS identifies positions, but it does not show which streets remain passable.

2. After the storm, workers compare satellite images taken before and after it. The newer image shows floodwater across the south end of the north-south street linking the clinic and school. A northern road links the school to the warehouse, and the image shows no floodwater on that road. Remote sensing supplies a view of the flood's extent, not proof that every road without visible flooding is safe. Crews use GPS to record a barricade near the clinic on the north-south street and send its coordinates to the town office. Their field report helps confirm that the direct route is blocked.

3. The town's GIS places the GPS points for buildings and the barricade on digital layers showing roads and satellite-detected flooding. The combined layers show that a vehicle cannot take the direct clinic-to-school street past the barricade, while the school-to-warehouse road appears open. Workers choose the school as a supply pickup site for people approaching from the warehouse, rather than promise access from the clinic. They still send a crew to inspect the northern road before deliveries begin. Coordinates show where places are; remote sensing suggests what changed; GIS connects those findings to travel choices.

2 ANSWER WITH EVIDENCE

Use the passage

1. Using their coordinates, which direction is the school from the clinic? What in the coordinates tells you?

2. Which two directions would you travel to go from the school toward the warehouse? Use both coordinates to explain.

3. What does each source, the newer satellite image and the GPS field report, reveal about the direct clinic-to-school street?

4. How do the GIS layers support choosing the school for people coming from the warehouse, and why must workers still inspect the road?

3 YOUR TURN

Your own words

Invent coordinates for a fourth site between 29.80° N and 29.84° N and between 90.00° W and 90.03° W. In three sentences, give its coordinates, describe its position relative to both the clinic and school, and explain how two locational tools could help check whether it is usable.

After the Storm

PART 1 · READ AND MARK

Circle the three building coordinate pairs, underline two statements that compare locations, and number the first mentions of GPS, remote sensing, and GIS in reading order to trace how the workers make their decision. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Using their coordinates, which direction is the school from the clinic? What in the coordinates tells you?	**The school is north of the clinic. Both have longitude 90.00° W, but the school's latitude, 29.84° N, is greater than the clinic's, 29.80° N.**
2	Which two directions would you travel to go from the school toward the warehouse? Use both coordinates to explain.	**South and west. The warehouse has a lower north latitude and a greater west longitude than the school.**
3	What does each source, the newer satellite image and the GPS field report, reveal about the direct clinic-to-school street?	**The image shows floodwater across the street's south end. The GPS field report places a barricade near the clinic on that street.**
4	How do the GIS layers support choosing the school for people coming from the warehouse, and why must workers still inspect the road?	**The layers show a school-to-warehouse road with no visible flooding, while the direct route from the clinic is blocked. A road without visible flooding might still be unsafe, so a crew must inspect it.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

My fourth site is at 29.83° N, 90.01° W. It is northwest of the clinic and southwest of the school. A recent satellite image could show whether water covers the site, and GIS could show whether a road reaches it without crossing the mapped flood area.

Accept any fourth-site coordinates strictly within the stated bounds if both relative directions match those coordinates. The response must name two locational tools and give a distinct, relevant use for each; it should not claim that an image or GIS alone proves a road is safe.