

Layers for Safety

Reading current U.S. information through GIS map layers

SS.7.G.6.1 "Use Geographic Information Systems (GIS) or other technology to view maps of current information about the United States."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each map layer Maya uses, and circle every word or phrase that helps you tell whether the information is current.

A Map That Changes

- ① On a Tuesday morning, Maya opens a GIS map made by the National Weather Service. A GIS map combines location data with map layers. She turns on the layer for tornado warnings in the United States. Yellow warning areas appear in parts of Oklahoma and Kansas. The map also shows the time each warning was issued and when it expires. Maya checks the date and time stamp because weather warnings can change quickly during the day.
- ② Next, Maya selects a layer showing road closures from the Oklahoma Department of Transportation. Closed-road symbols appear near one warning area. She uses the map key to learn what the symbols mean, then zooms in to compare the warning boundary with nearby highways. Maya does not assume every road in the state is closed. She reads the layer's update time and compares more than one layer before deciding which route may be safer for travel today.
- ③ GIS maps can help people view current information, but they are not the only useful technology. A city emergency office may post an online map with shelter locations, evacuation zones, and road conditions. A student using this map should identify the source, check when the information was updated, and use the key. The student can compare layers to locate a shelter outside an evacuation zone and choose a route that is not marked closed on the map.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 Which map layer does Maya use first, and what two states contain yellow warning areas?

2 What two time details should Maya examine to help decide whether a weather warning is current?

3 How do the map key and zoom tool help Maya compare the tornado warning area with highways?

4 Why does Maya compare the road-closure layer with the tornado-warning layer before choosing a route?

3 YOUR TURN _____ Your own words

Imagine you are using a current online GIS map during an emergency. Write exactly three sentences explaining how you would check the map and use its layers to choose a safer shelter and route.

PART 1 • READ AND MARK

Underline each map layer Maya uses, and circle every word or phrase that helps you tell whether the information is current. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Which map layer does Maya use first, and what two states contain yellow warning areas?	She first uses the tornado warnings layer. Yellow warning areas appear in parts of Oklahoma and Kansas.
2	What two time details should Maya examine to help decide whether a weather warning is current?	She should examine the date and time stamp and the time the warning was issued and expires.
3	How do the map key and zoom tool help Maya compare the tornado warning area with highways?	The map key explains the closed-road symbols. Zooming in lets Maya compare the warning boundary with nearby highways.
4	Why does Maya compare the road-closure layer with the tornado-warning layer before choosing a route?	She compares the layers to see where warning areas and closed roads are located. This helps her choose a route that may be safer instead of assuming every road is closed.

PART 3 • YOUR TURN (SAMPLE ANSWER)

First, I would check that the emergency office is the source and read the update time. Next, I would use the key to understand the evacuation-zone, shelter, and road-condition symbols. Then, I would compare the layers and select a shelter outside the evacuation zone with a route not marked closed.

Accept equivalent descriptions of checking a reliable source, checking update information, using the map key, and comparing layers. For the open response, accept any logical three-sentence plan that uses current map information to select a shelter and route.