

When Meaning Shakes

Use purposeful annotations to repair confusion and refine ideas.

8.5.1 “monitor comprehension and make adjustments such as re-reading, using background knowledge, asking questions, and annotating when understanding breaks down.”

NAME _____ DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline one word or phrase that slows your understanding, circle a nearby clue that helps, and write a numbered question in the margin. Use your marks to reread and revise your first idea.

Why Mexico City Shook

- ① On September 19, 2017, Mexico City shook as an earthquake struck central Mexico. Many residents expected damage from a quake centered far away, but this event caused intense shaking in the capital even though its epicenter was about 120 kilometers away. The reason lies partly beneath the city. Much of Mexico City stands on the soft sediments of an ancient lakebed. When seismic waves enter these water-rich layers, the ground can move more strongly and for a longer time.
- ② This effect is often called amplification. Think of pushing a playground swing: small pushes, timed to match the swing's motion, can make it travel higher. In a similar way, certain ground layers can strengthen particular seismic waves. The lakebed does not create the earthquake or make every building fail. Instead, it can increase motion at the surface. Engineers use maps of soil conditions, along with building information, to estimate which neighborhoods may need stronger construction or emergency planning.
- ③ After the 2017 earthquake, researchers compared damage patterns with maps of the former lake. They found that local conditions mattered, but they also considered building design, distance from the fault, and the quake's depth. This prevents a misleading conclusion: soft soil is an important factor, not the only factor. A careful reader may need to reread the word “amplification” and connect the swing comparison to the explanation that follows. Doing so helps separate a useful model from a claim that every place shakes alike.

2 ANSWER WITH EVIDENCE _____ Use the passage

- 1** Suppose the term “seismic waves” slows you down. What nearby words in paragraph 1 should you reread, and what do they tell you?

- 2** Use the swing comparison and what you know about pushing a swing. What does it help you infer about amplification?

- 3** Write a question you could place beside the sentence about maps of soil conditions. Then answer it with a detail from paragraph 2.

- 4** A reader concludes, “Soft soil was the only reason buildings were damaged.” Which details should make the reader revise that conclusion?

3 YOUR TURN _____ Your own words

Choose one word, phrase, or sentence in the passage that could cause confusion. Write 3 or 4 sentences that name it, ask a helpful question, use a reread clue or background connection, and explain how your understanding changed.

PART 1 • READ AND MARK

Underline one word or phrase that slows your understanding, circle a nearby clue that helps, and write a numbered question in the margin. Use your marks to reread and revise your first idea. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Suppose the term “seismic waves” slows you down. What nearby words in paragraph 1 should you reread, and what do they tell you?	Reread “enter these water-rich layers” and “the ground can move more strongly and for a longer time.” These clues show that seismic waves can make the ground shake more intensely in the lakebed sediments.
2	Use the swing comparison and what you know about pushing a swing. What does it help you infer about amplification?	Amplification means that ground layers can strengthen shaking, like well-timed pushes can make a swing move higher.
3	Write a question you could place beside the sentence about maps of soil conditions. Then answer it with a detail from paragraph 2.	Example: “Why do engineers use soil maps?” They use them with building information to estimate which neighborhoods may need stronger construction or emergency planning.
4	A reader concludes, “Soft soil was the only reason buildings were damaged.” Which details should make the reader revise that conclusion?	The reader should reread that researchers also considered building design, distance from the fault, and the quake’s depth.

PART 3 • YOUR TURN (SAMPLE ANSWER)

I paused at “estimate” because I first thought engineers could predict exactly which buildings would be damaged. My question was, “What information do they use?” Rereading showed that they use soil maps and building information, so I understood that they identify areas of risk rather than guarantee a result.

Accept different annotated words or phrases when the student identifies a relevant clue and explains a reasonable revised understanding. For the open response, accept varied questions and background connections if they accurately use evidence from the passage.