Questions Below Asphalt

Trace how linked questions turn a local observation into research.

8.T.RA.1.a "Generate questions to guide research and make connections between related topics of interest, formulating questions to investigate complex topics and ideas. (I)"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Circle each research question. Underline words that show a connection to another topic or a type of evidence, so you can see how the questions guide research into a complex issue.

Mapping Summer Heat

1. On a July afternoon, Maya noticed that the blocks near her apartment felt hotter than the park two streets away. She wanted to study more than temperature. Her first research question was, "How do pavement, shade, and building materials affect summer heat on nearby sidewalks?" This question connected several related topics: city design, public health, and access to cool outdoor spaces. Instead of asking whether heat was "bad," Maya named a place, a season, and factors she could investigate with maps, observations, and temperature readings.

2. To explore the question, Maya planned a comparison. She would measure surface temperatures at three bus stops, one beside a tree-lined street, one beside a wide parking lot, and one near tall buildings. She would take readings at the same time on several sunny days and record shade, pavement type, and nearby traffic. Then she added a second question: "Which bus stops offer the least protection from heat for people waiting there?" The new question linked physical measurements to people's daily experiences and could help focus her research.

3. Maya also looked for questions that could connect her heat study to possible solutions. She asked, "Where could the city add shade near the hottest bus stops?" and "How might added trees or shelters change conditions for riders?" These questions did not assume that one solution would work everywhere. They pointed toward evidence she would need, such as tree-canopy maps, bus schedules, land ownership, construction costs, and rider interviews. By moving from a broad topic to linked, researchable questions, Maya could investigate a complex local issue from more than one angle.

2 ANSWER WITH EVIDENCE

Use the passage

1. Copy Maya's first research question. What three factors does it ask her to investigate?

2. Which two related topics, besides city design, does Maya's first question connect?

3. How does Maya's bus-stop question connect temperature research to people's experiences?

4. Why do Maya's solution questions avoid assuming a single answer? Name one type of evidence she would need.

3 YOUR TURN

Your own words

Choose a complex issue at your school or in your community. Write one central research question and three linked questions. Put a different related topic in parentheses after each linked question.

ANSWER KEY

Questions Below Asphalt

GRADE 8 · 8.T.RA.1.a

PART 1 · READ AND MARK

Circle each research question. Underline words that show a connection to another topic or a type of evidence, so you can see how the questions guide research into a complex issue. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Copy Maya's first research question. What three factors does it ask her to investigate?	**"How do pavement, shade, and building materials affect summer heat on nearby sidewalks?" The factors are pavement, shade, and building materials.**
2	Which two related topics, besides city design, does Maya's first question connect?	**Public health and access to cool outdoor spaces.**
3	How does Maya's bus-stop question connect temperature research to people's experiences?	**It asks which bus stops give the least heat protection to people waiting there.**
4	Why do Maya's solution questions avoid assuming a single answer? Name one type of evidence she would need.	**They ask where shade could be added and how trees or shelters might change conditions, rather than assuming one solution works everywhere. Evidence could include tree-canopy maps, bus schedules, land ownership, construction costs, or rider interviews.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Central question: What causes late buses at Riverside Middle School, and how do delays affect students and families? 1. How do traffic patterns and route length affect bus arrival times? (transportation) 2. How do late buses affect students' ability to attend after-school activities? (student participation) 3. How do delays change family pickup plans and child-care schedules? (family routines)

Accept accurate paraphrases of passage details. For Part 3, accept varied topics when the response includes one researchable central question and three connected, researchable questions with three different related topics.