Evidence Scope

Track how evidence can narrow or broaden a research inquiry.

9.R.1.A "Formulate and revise questions about a research topic, broadening or narrowing the inquiry as necessary."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each version of Maya's research question and number the questions 1 through 3 in order. Circle the words or phrases that explain why she narrows or broadens her inquiry.

Following the Evidence

1. When a city grows hotter than nearby rural areas, researchers call the pattern an urban heat island. Pavement and dark roofs absorb sunlight, while fewer trees provide less shade and cooling through evaporation. Ninth grader Maya wants to study the issue after noticing that her bus stop has no shade. Her first question is, "Why are cities hot?" It could lead to weather, building materials, transportation, or public health. Because it includes many places, causes, and effects, Maya cannot reasonably investigate it in one short project. She needs an inquiry question with a clear place, factor, and possible evidence.

2. To make the inquiry manageable, Maya chooses Riverton, a fictional name for her community, and focuses on bus stops. She changes her question to, "How does tree canopy near Riverton bus stops relate to afternoon surface temperatures during July?" This version names a location, one environmental factor, and a measurable result. Maya plans to use the city's public tree-canopy map and surface-temperature map. She will compare stops with different amounts of nearby canopy, rather than claiming that trees alone cause every temperature difference. Her question is narrow enough to guide a search, but it may need revision after she examines the available data.

3. The maps reveal a problem. The temperature map reports only one afternoon in July, so Maya cannot use it to represent the entire month. Instead of abandoning the project, she broadens the time part of her inquiry to match a stronger source: daily satellite temperature records for June through August. Her revised question is, "How does tree canopy near Riverton bus stops relate to afternoon surface temperatures during the summer?" The new question still has a clear place, factor, and result, but it now fits the evidence she can obtain. Maya records the revision and its reason, so readers can see how available evidence shaped her inquiry.

2 ANSWER WITH EVIDENCE

Use the passage

1. Name two directions Maya's first question could lead to. Why do those possible directions make the question too broad for one short project?

2. In Maya's July question, what are the location, the environmental factor, and the measurable result?

3. What problem with Maya's July evidence causes her to revise the time part of her question? How does she broaden that time part?

4. Why does Maya ask how tree canopy and temperature "relate to" each other instead of claiming that trees cause every temperature difference?

3 YOUR TURN

Your own words

Choose a research topic you could investigate at school or in your community. Write one broad question, then revise it into a narrower question with a clear place, factor or topic, measurable result, and time frame. Explain in one sentence why your revision fits the evidence you could collect.

ANSWER KEY

Evidence Scope

GRADE 9 · 9.R.1.A

PART 1 · READ AND MARK

Underline each version of Maya's research question and number the questions 1 through 3 in order. Circle the words or phrases that explain why she narrows or broadens her inquiry. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Name two directions Maya's first question could lead to. Why do those possible directions make the question too broad for one short project?	**It could lead to weather and building materials, or transportation and public health. The question includes too many possible causes, effects, and places to investigate in one short project.**
2	In Maya's July question, what are the location, the environmental factor, and the measurable result?	**Location: Riverton bus stops. Factor: tree canopy near the stops. Measurable result: afternoon surface temperatures.**
3	What problem with Maya's July evidence causes her to revise the time part of her question? How does she broaden that time part?	**The map shows temperatures for only one July afternoon, not the whole month. She changes the time frame to summer, using daily records from June through August.**
4	Why does Maya ask how tree canopy and temperature "relate to" each other instead of claiming that trees cause every temperature difference?	**Comparing bus stops can show a relationship between canopy and temperature, but other factors may also affect temperature differences.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Broad question: Why is cafeteria waste a problem? Revised question: How does the number of labeled compost bins in the Lincoln High cafeteria relate to the pounds of food waste sent to trash each week during October? This revision limits the place, factor, result, and time, and cafeteria waste records can provide evidence.

Accept equivalent descriptions of Maya's question parts and evidence problem. For the open task, accept varied topics if the revised question is meaningfully more focused and the explanation connects its scope to available evidence.