Questions in Motion

Follow a research question as new evidence sharpens its focus.

11-12.W.5.a "Formulate an inquiry question and refine and narrow the focus as research evolves."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each of Maya's inquiry questions and number them in the order she asks them. Circle the observations or source findings that lead her to change the question.

What Counts as Shade?

1. On a July afternoon, Maya stood beside a bus stop with a metal roof. The roof covered the bench, but the line of waiting passengers stretched beyond it into the sun. She began with a question for a research project: "How can cities make bus stops better?" That question could lead to studies of fares, safety, access, or weather, none of which her afternoon observation could settle. Maya chose heat as her topic and drafted a narrower question: "Do roofs keep people cool while they wait for buses?" She planned to compare two stops on her route.

2. Before collecting temperatures, Maya read the transit agency's stop descriptions and checked a city tree inventory. Both stops had roofs, but only the stop beside the bakery had a large street tree nearby. Her question about roofs would not explain a difference between two roofed stops. She revised it: "How much of each stop's waiting area is shaded during the afternoon?" At her first visit, clouds passed over both stops, briefly shading everything. A photograph taken at a single moment could also miss the way shadows move. She needed a defined time, repeat visits, and a way to distinguish tree shade from roof shade.

3. Maya wrote a workable inquiry question: "On clear July weekdays, how much of the waiting area at each of two stops on Cedar Avenue is shaded by trees between 3 and 5 p.m.?" She would sketch the boundary of each waiting area, record the shaded portion every thirty minutes, and note whether the shade came from a tree or a roof. This question does not establish whether shade lowers a person's body temperature or changes bus ridership. Maya's measurements could describe shade at those stops during the sampled afternoons, not every stop in the city or every hour of the day.

2 ANSWER WITH EVIDENCE

Use the passage

1. Rewrite Maya's first question to focus on one issue raised by her first afternoon observation. What did she see that supports your question?

2. Why was Maya's question about roofs a weak fit for comparing these two stops? Write a replacement question that uses what she learned from the tree inventory.

3. How did clouds and moving shadows change the scope of Maya's final question? Name two limits she added.

4. Suppose Maya can collect data on only one clear July weekday. Revise her final question so it matches the evidence she could collect.

3 YOUR TURN

Your own words

Choose a local issue other than bus stops. Write an initial inquiry question, describe one specific finding from a source or observation, and write a narrower question you could investigate. Explain how the finding changed your focus.

ANSWER KEY

Questions in Motion

HIGH SCHOOL · 11-12.W.5.a

PART 1 · READ AND MARK

Underline each of Maya's inquiry questions and number them in the order she asks them. Circle the observations or source findings that lead her to change the question. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Rewrite Maya's first question to focus on one issue raised by her first afternoon observation. What did she see that supports your question?	**Do roofed bus stops protect all waiting passengers from direct sun? Maya saw that the roof covered the bench but not the line of passengers.**
2	Why was Maya's question about roofs a weak fit for comparing these two stops? Write a replacement question that uses what she learned from the tree inventory.	**Both stops had roofs, but only one had a nearby tree. A better question is, "How much tree shade reaches the waiting area at each stop?"**
3	How did clouds and moving shadows change the scope of Maya's final question? Name two limits she added.	**She limited observations to clear days to avoid cloud shade and to 3 to 5 p.m. so she could track shadows during a defined period.**
4	Suppose Maya can collect data on only one clear July weekday. Revise her final question so it matches the evidence she could collect.	**On one clear July weekday, how much of the waiting area at each of two stops on Cedar Avenue is shaded by trees between 3 and 5 p.m.?**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Initial question: How can our school reduce food waste? Finding: A one-day cafeteria waste log lists 18 unopened milk cartons discarded at lunch. Revised question: How many unopened milk cartons does the cafeteria discard at lunch across five school days? Explanation: The log identifies a measurable kind of waste and suggests tracking it for longer than one day.

Accept different question wording when it matches the stated evidence and narrows the scope. For Part 3, the finding may be a proposed observation or source finding, but the revised question must be researchable.