Data Detectives

Choose the information that helps answer a class question.

3.PS.1.b "Determine the data needed to answer a formulated question and collect or acquire existing data (limited to 30 or fewer data points for no more than eight categories) using various methods (e.g., polls, observations, tallies)."

NAME _____ DATE _____

DATA NEEDED	DATA NOT NEEDED
This information directly helps answer the class question. Collect it with a poll, observation, or tally. For the question, "Which fruit do students choose at snack?" record each student's fruit choice.	This information does not help answer the class question. You do not need to collect it. For the question, "Which fruit do students choose at snack?" the color of each student's backpack is not needed.

1 SORT

8 items

The question is, "Which way do most students in our class get to school?" Circle NEEDED or NOT NEEDED for each item.

1.	Each student's main way of getting to school	NEEDED	NOT NEEDED
2.	A tally of students who walk, bike, ride a bus, or ride in a car	NEEDED	NOT NEEDED
3.	Each student's favorite ice cream flavor	NEEDED	NOT NEEDED
4.	The number of students who walk to school	NEEDED	NOT NEEDED
5.	The color of each student's water bottle	NEEDED	NOT NEEDED
6.	How many letters are in each student's name	NEEDED	NOT NEEDED
7.	A poll that asks, "How do you get to school?"	NEEDED	NOT NEEDED
8.	Each student's birthday month	NEEDED	NOT NEEDED

2 PROVE IT

Explain your thinking

Pick two items from Part 1. For each one, tell how you knew where it belonged.

ITEM # _____ **HOW I KNEW** _____

ITEM # _____ **HOW I KNEW** _____

3 MAKE YOUR OWN

One of each

Write one new kind of data that is NEEDED and one new kind of data that is NOT NEEDED for the class question.

NEEDED _____

NOT NEEDED _____

CHALLENGE

Write your own question about a choice students make, with 2 to 4 clear answer categories. Name two kinds of needed data and a method. Then actually poll 3 to 5 classmates arranged by your teacher; ask each person to choose ONE category. On extra paper, record every response, tally each category, and use your counts to answer your question about this small group. Do not invent responses or claim the result describes the whole class.

ANSWER KEY # Data Detectives

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Each student's main way of getting to school	**NEEDED**	This directly tells how each student gets to school.
2	A tally of students who walk, bike, ride a bus, or ride in a car	**NEEDED**	The tally shows how many students use each way.
3	Each student's favorite ice cream flavor	**NOT NEEDED**	Ice cream choices do not answer the transportation question.
4	The number of students who walk to school	**NEEDED**	This count helps find the most common way.
5	The color of each student's water bottle	**NOT NEEDED**	Water bottle colors do not answer the transportation question.
6	How many letters are in each student's name	**NOT NEEDED**	Name lengths do not answer the transportation question.
7	A poll that asks, "How do you get to school?"	**NEEDED**	The poll collects the needed transportation data.
8	Each student's birthday month	**NOT NEEDED**	Birthday months do not answer the transportation question.

PART 2 · PROVE IT

Accept any explanation that names the deciding feature from the rule box for the chosen item.

PART 3 · MAKE YOUR OWN (SAMPLE ANSWERS)

- **NEEDED**: A chart that shows how many students ride a bus, walk, bike, or ride in a car.
- **NOT NEEDED**: Each student's favorite book.

Challenge: Example only, not data to copy: Which of these fruits would the five students polled choose for snack: apple, banana, or orange? Needed data: each actual fruit choice and the count for each category. Method: poll. Responses: apple, banana, apple, orange, apple. Tallies: apple 3, banana 1, orange 1; total 5. Apple was the most common choice among these five students. Actual learner data will vary.

Accept other answers when the data clearly does or does not help answer the transportation question. For the challenge, check that the question, needed data, and collection method match. Before the challenge, arrange 3 to 5 available classmates and provide extra recording paper. Approve one understandable single-choice question with 2 to 4 nonoverlapping categories. Observe actual polling, require the raw responses and category tallies, verify the tally total equals the number of participants, and check that the answer is limited to this small group. Support recording as needed; an invented example or future collection plan does not complete the challenge.