

Data Detectives

Match each question to the data and method it needs.

GRADE 7 • 7.PS.2.b

7.PS.2.b "Determine the data needed to answer a formulated question and collect the data (or acquire existing data) using various methods (e.g., observations, measurement, surveys, experiments)."

NAME _____

DATE _____

PLAN THE DATA

First, name the values you need to answer the question. Then choose a method that can produce those values, such as a survey, measurement, observation, experiment, or existing records.

WORKED EXAMPLE

Question: Do 18 students spend more time biking on weekdays or weekends? What data and method are needed?

1. Record each student's weekday biking minutes.
2. Record each student's weekend biking minutes.
3. Use a survey of the 18 students.
4. Compare the two sets of minutes.

**Answer: Data: weekday and weekend biking minutes for each student.
Method: survey.**

PRACTICE 5 problems

1 Question: What is the median number of pets owned by 24 students? Name the data and method.

ANSWER _____

2 Question: Which cafeteria line has the shortest wait? Name the data and method.

ANSWER _____

3 Question: Does stretching change players' jump heights? Name the data and method.

ANSWER _____

4 Question: How many books were checked out from the library last month? Name the data and method.

ANSWER _____

5 Question: Which of 4 songs is most popular in the homerooms? Name the data and method.

ANSWER _____

APPLY IT Show your work

- 1** The robotics club has 36 members. It wants to find the average one-way commute time to meetings. What data should it collect, and how should it collect it?

WORK SPACE

ANSWER _____

- 2** A coach wants to know whether a new warm-up lowers sprint times for 8 runners. What data should be collected, and what method should be used?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A gaming club asks, "Do students who play video games more often get more sleep?" It surveys 12 club members about gaming time only. Explain why this data cannot answer the question, and state what data is needed.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Question: What is the median number of pets owned by 24 students? Name the data and method.	Data: number of pets owned by each of the 24 students. Method: survey.
2	Question: Which cafeteria line has the shortest wait? Name the data and method.	Data: wait time for students in each line. Method: observe and measure the wait times.
3	Question: Does stretching change players' jump heights? Name the data and method.	Data: each player's jump height before and after stretching. Method: experiment with measurements.
4	Question: How many books were checked out from the library last month? Name the data and method.	Data: total books checked out last month. Method: use library checkout records.
5	Question: Which of 4 songs is most popular in the homerooms? Name the data and method.	Data: each student's song choice. Method: survey the homerooms.

PART 2 • APPLY IT

1. **Collect each member's one-way commute time in minutes. Survey all 36 club members.** The average needs one commute-time value from every member. A survey can collect those times.
2. **Collect each runner's sprint time with the old warm-up and with the new warm-up under the same conditions. Use an experiment and compare each runner's two times.** Each runner needs two measured times. Keeping conditions the same makes the warm-up the main change.

CHALLENGE

The survey does not include sleep time, and club members may not represent all students. Collect gaming time and sleep time from a random sample of students, then compare the two values.

Accept equivalent wording for the needed values and collection method. For the warm-up task, require paired times for the same runners and controlled conditions.