Sort the Data

Decide whether each set of answers gives amounts or types.

MT.CORE.DATA.LIT.1 "Distinguish between quantitative and categorical data and use representations and analysis techniques that are appropriate for each type."

NAME _____ DATE _____

QUANTITATIVE DATA

The values are counts or measurements. Doing arithmetic with them makes sense.

Hours of sleep per night for each teen

CATEGORICAL DATA

The values name groups or qualities. A number used only as a code is categorical, too.

Instrument played by each band member

1 SORT

8 items

For each item, circle AMOUNT or TYPE, then choose one item from each category and explain how you knew.

1.	Minutes each runner takes to finish a race	AMOUNT TYPE
2.	Fuel type used by each car	AMOUNT TYPE
3.	Eye color of each shelter dog	AMOUNT TYPE
4.	Mass of each pumpkin in kilograms	AMOUNT TYPE
5.	Number of seats in each movie theater	AMOUNT TYPE
6.	Material of each reusable water bottle	AMOUNT TYPE
7.	Daily rainfall in millimeters at a weather station	AMOUNT TYPE
8.	Number of goals scored by each soccer team in a match	AMOUNT TYPE

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 question that would collect quantitative data and one that would collect categorical data; tell what you would record for each.

AMOUNT _____

TYPE _____

CHALLENGE

Choose one of your new questions, name a graph that fits its data, and explain why.

ANSWER KEY

Sort the Data

PART 1 · SORT

#	ITEM	CATEGORY	WHY
1	Minutes each runner takes to finish a race	**AMOUNT**	Minutes measure elapsed time.
2	Fuel type used by each car	**TYPE**	Fuel types name groups.
3	Eye color of each shelter dog	**TYPE**	Eye colors name qualities.
4	Mass of each pumpkin in kilograms	**AMOUNT**	Kilograms measure mass.
5	Number of seats in each movie theater	**AMOUNT**	Seats can be counted.
6	Material of each reusable water bottle	**TYPE**	Materials name groups.
7	Daily rainfall in millimeters at a weather station	**AMOUNT**	Millimeters measure rainfall.
8	Number of goals scored by each soccer team in a match	**AMOUNT**	Goals can be counted.

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)

- **AMOUNT**: How many steps does each hiker take on a trail? Record each hiker's step count.
- **TYPE**: Which fruit does each cafeteria worker prefer? Record the fruit each worker names.

Challenge: For the fruit question, I would use a bar graph because it shows how many workers chose each fruit.

For Part 2, item 1 is quantitative because minutes measure time; item 2 is categorical because fuel types are labels. Accept other pairs when the explanations correctly identify a count or measurement and a group or quality.