The Better "Picker Upper" Lab

Draw

Draw a picture of what you are going to do to compare paper towel brands. Label the variables in your picture.

1. What variables will you study in this lab?

2. What variables should be fixed or should not change in this lab? Tell why.

Collect

3. Work with your partners to do the lab and record your data on the data table.

- • Label each brand of paper towel.
- • Put your name on the paper towels.

Area of Spot vs. Brand of Paper Towel

T Brand of Paper Towel	A Area of Spot (in _____) unit			
	Trial 1	**Trial 2**	**Trial 3**	**Median**

Graph

4. Graph the median area for each brand of paper towel on *Centimeter Graph Paper*.

- • Label the horizontal axis Brand of Paper Towel (*T*).
- • Label the vertical axis Area of Spot (*A*). Include the units.
- • Choose an appropriate scale for the vertical axis.
- • Title the graph "Area of Spot."

Explore

Use your graph to find answers to the following questions.

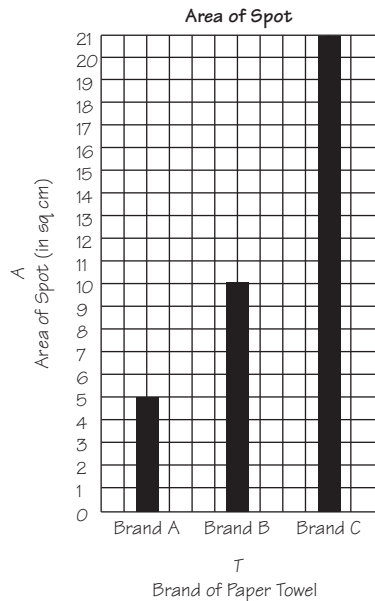**5.** Which paper towel had the spot with the largest area? What was the area of the spot?

6. Which paper towel had the spot with the smallest area? What was the area of the spot?

7. How much larger was the largest spot than the smallest spot? Explain how you found your answer.

8. How would the graph look if you dropped twice as many drops on each paper towel?

9. Look at your graph. Which towel do you think picks up the most water? Show or tell how you decided.

10. Professor Peabody decided that Brand C is the better "picker upper" or the one that picks up the most water. Do you agree with Professor Peabody? Why or why not?
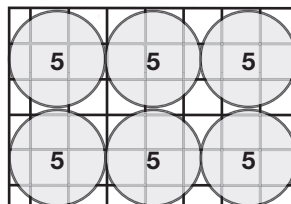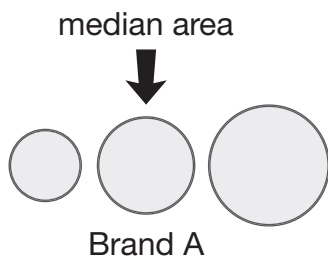
Area of Spot

Area of Spot (in sq cm) — *A*

Brand A   Brand B   Brand C

T
Brand of Paper Towel

> I think Brand C will pick up the most water because it had the spot with the largest area.

Professor Peabody Makes Another Model

After looking at the area of the spots made, Professor Peabody was still not sure which paper towel was the better "picker upper." He decided to make a different model. He went back to his data to make a new model.

> The better "picker upper" will hold more drops of water!

> This brand will hold 30 drops of water.

median area
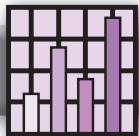
Brand A

| 5 | 5 | 5 |
| 5 | 5 | 5 |

Collect

11. Work with your partners to find out how many drops of water each brand of paper towel can pick up.

For each brand:
- Label a sheet of copy paper with the paper towel brand's name.
- Choose the median paper towel spot.
- Trace the median spot onto the sheet of paper as many times as it will fit.
- Find the number of drops that can be picked up by each brand of towel.
- Record the data on the data table below.

Number of Drops vs. Brand of Paper Towel

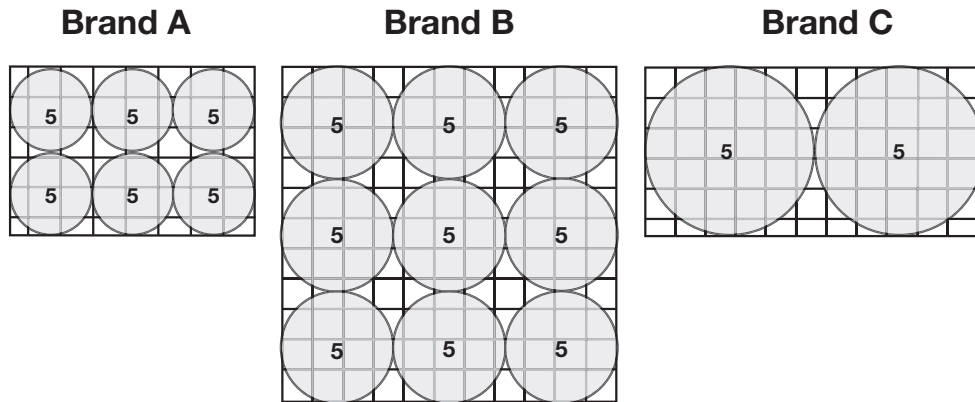| T Brand of Paper Towel	N Number of Drops

Graph

12. Graph your data on a piece of *Centimeter Graph Paper*.
- Label the horizontal axis Brand of Paper Towel (*T*).
- Label the vertical axis Number of Drops (*N*), include units.
- Choose an appropriate scale for the vertical axis.
- Title the graph "Number of Drops."

Explore

13. Which brand of paper towel had the tallest bar on your Number of Drops graph?

14. Did this same brand of paper towel have the tallest bar on your Area of Spot graph? Predict why.

15. Professor Peabody made the models below to compare the paper towel brands. He traced the spots on a full sheet of each brand of paper towel.

Brand A   **Brand B**   **Brand C**

He graphed the number of drops that each paper towel could pick up.

Number of Drops
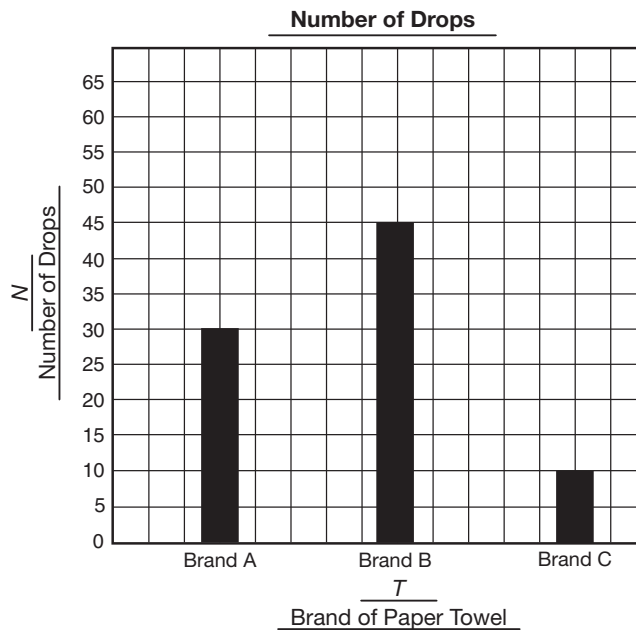
He decided the Brand B was the better "picker upper" because the paper towel could hold the most drops of water.

Do you agree with Professor Peabody? Why or why not?

16. Compare your graphs and diagrams. Which towel do you think is the better "picker upper"? Show or tell how you decided.

The Better "Picker Upper" Lab Feedback Box	Expectation	Check In	Comments
Find the area of shapes with curved sides by counting square centimeters. [Q# 3]]	E3		
Make a scaled bar graph using numerical data. [Q# 4 and 12]	E5		
Read a graph to find information about a data set. [Q# 5–7 and 13–14]	E6		
Find the median of a data set. [Q# 3]	E7		
Make predictions and generalizations about a data set using data tables, graphs, and diagrams. [Q# 8–10 and 15–16]	E8		