Name _____ Date_____ Class_____

Science Skills Worksheets

COMMUNICATING SKILLS

Interpreting Your Data

Imagine that you are at home taking care of your brother's dog, Sparky. At 7 P.M., Sparky starts barking. "He might be hungry," you think to yourself. What are some other reasons that Sparky might bark?

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Now suppose that this is the fourth night in a row you've taken care of Sparky. You have noticed that every night at about 7 P.M., Sparky starts barking. "Ah-ha!" you say to yourself, "There is a pattern here!"

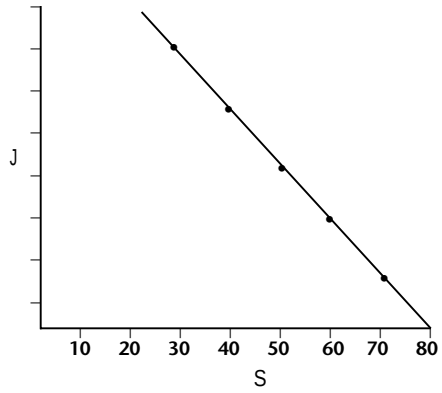
Hidden Patterns

When you collect raw data, patterns are often camouflaged as random numbers. Part of conducting a successful experiment is analyzing your data to find any hidden patterns. Two common data patterns you might see on your graph during an experiment are as follows:

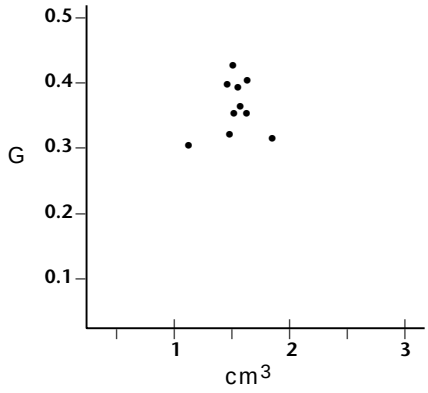
- linear (Your data tend to form a straight line.)
- repeating (Your data cycle repeatedly through the same general points.)

On the graph below, identify the examples of these two patterns.

a.



b.



a. _____

b. _____

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Graph It!

One of the best ways to identify a pattern is to draw a graph. A graph turns random data into a pattern that gives specific information.

Mary tested how fast blocks of clay dry under a bright light. She recorded the time it took different-sized blocks to dry.

Volume of block (cm^3)	27	8	43	125	16	166	64	91
Time to dry (min)	5	3	7	21	4	37	9	14

Graph her data in the space below.

Describe the shape of the pattern that emerges from Mary's data. Mary hypothesized that the drying time for a clay block was **directly proportional** to the block's volume. In other words, her hypothesis predicted that her data would form a straight line. Was her hypothesis correct? Explain your answer.

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TROUBLESHOOTING

If you are having trouble telling whether Mary's data form a straight line, try drawing a line from her lowest data point to the highest data point. If her data form a straight line, most of the points should fall on or be very close to the line you just drew.

TRY THIS!

Mary had one additional data point with values of 142 cm^3 and 39 minutes. Because this point was different from her other data points, she decided she had made an error while performing that trial. To understand her thinking, plot that point on your graph above.