Name _____ Class _____ Date _____

Quick Lab

The Expanding Universe

MATERIALS

- marker
- balloon
- string
- ruler

PROCEDURE

1. Use a **marker** to make 3 dots in a row on an uninflated **balloon.** Label them "A," "B," and "C." Dot B should be closer to A than dot C is to B.
2. Blow the balloon up just until it is taut. Pinch the balloon to keep it inflated, but do not tie the neck.
3. Use **string** and a **ruler** to measure the distances between A and B, B and C, and A and C.
4. With the balloon still inflated, blow into the balloon until its diameter is twice as large.
5. Measure the distances between A and B, B and C, and A and C. For each set of dots, subtract the original distances measured in step 3 from the new distances. Then, divide by 2, because the balloon is twice as large. This calculation will give you the rate of change for each pair of dots.
6. Repeat steps 4 and 5.

ANALYSIS

1. Did the distance between A and B, between B and C, or between A and C show the greatest rate of change?

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2. Suppose dot A represents Earth and that dots B and C represent galaxies. How does the rate at which galaxies are moving away from us relate to how far they are from Earth?

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