Experiment: Which Soil is Best for Growing Beans?

Objectives:
Students will compare the rate of growth for beans in different types of soil.
Students will graph data collected in an experiment.
Students will read and interpret graphs.

You'll Need:
• 2 cups each of different types of soil, such as sandy, clay, or loam (you can use potting soil for loam. Be sure to use a minimum of three types.)
• 6 - 8 planters (recyclables, such as small plastic cups, cafeteria milk cartons, or yogurt containers are great)
• Bean seeds (choose one variety: pinto, lima, or soybean)
• Spoon
• Well-lit window sill or a plant light

Procedure:
1. Assign students the task of bringing 2 cups of soil from home. The soil should be from their yard rather than purchased from the store.
2. Examine the soil samples and categorize by type (sandy, clay, loam).
3. Fill containers with soil. Label each container with the date, soil type, and variety of seed to be planted.
4. Plant the seeds according to directions.
5. Place planter on a well-lit windowsill or under a plant light.
6. Add water until the soil is moist but not soaked. Water lightly as needed throughout the course of the experiment.
7. Observe and watch for signs of growth. Record data.

Math Connection:
Graph the data gathered on growth rates in different types of soil.

Think About It:
In which types of soil did the bean show the first signs of growth?
Were the results at the end of the first week the same as at the end of the second week? Why or why not?
If you had planted a different variety of beans, would your results have been the same?
Do your conclusions have any implications for farmers around the world. If so, what are they?