



Name _____ Date _____ Class _____

Student Guide 1 Topography of the Unknown

Purpose:

Scientists use probes to identify the properties of objects, even if they cannot see the objects! In this activity you will use a height probe to identify and analyze the height changes in an object that you cannot see.

Materials:

One set of materials per group of 2-3 students:

- Observation box: Small shallow cardboard box (approximately 3×3×2 inches) such as a jewelry box
- Height Probe: Straightened paperclip or thin wooden, plastic or metal stick at least 6 inches long
- Random objects that fit into the box.
- Student Guide 1 (one for each student)
- 3 pieces of Scan Paper (provided) or graph paper
- Thumbtack
- Ruler
- Pen
- Glue-stick
- Scissors

For the class:

Glue Gun

Decorating Material - crayons, markers, construction paper, tape, etc. (optional)

Procedure:

Make an Observation Box

1. Choose a side of the box lid and mark it with a “T”. Choose a side of the box and mark it with a “T”. Line up the two “T’s”, and this will be the top of your box.
Place one piece of Scan Paper on the lid of your box. Make sure the row of letters is at the top (along your “T”) and the column of numbers is along the left of the box. Tape it down.
2. Cut off the excess paper. Secure the paper with tape or glue.
3. Place a new piece of Scan Paper on the bottom of the box. Make sure the row of letters is at the top (along the “T”) and the column of numbers is along the left side of the box. Tape it down.
4. Cut off the excess paper. Secure the paper with tape or glue.

TEACHER CHECK: Have your teacher check your work.

Teacher’s initials _____

5. Place the box lid back on the box so that the “T’s” of the top of the lid and the top of the box are lined up.
6. On the box lid **only**, use a thumbtack to pierce a hole in the center of each square on the Scan Paper. The holes you have created are called **probe holes**.
7. Your instructor will tell you how you will get your object inside of your box.

