

Stretching the Limits: constructing a measuring device

Objective: Students will construct rubber band scales to utilize in a later experiment.

Equipment & Materials:

1. paper clip
2. scissors
3. 30 cm ruler
4. masking tape
5. medium weight rubber band
6. 18" piece of string
7. group of objects (teacher selected) – NOTE: students may rotate these objects among the groups, if needed.

Method:

1. Make one cut in the rubber band to make one long piece.
2. Tie a paper clip to one end of the rubber band.
3. Tie the string to the opposite end of the paper clip.
4. Hold the paper clip so that the tip is at the 9 cm mark on the ruler.
5. Drape the rest of the rubber band the length of the ruler so that the end hangs over the end of the ruler (the 0 mark end)
6. While holding the paper clip at the 9 cm mark, tape the other end of the rubber band securely to the back of the ruler. Don't stretch the rubber band.
7. For each object: attach the object to the rubber band scale using the string at the end of the paper clip.
8. Slowly lift the rubber band scale straight up so that the object is lifted off the table or desk.
9. Observe how far the rubber band stretches. Find the number at the bottom tip of the paper clip and record it on the lab sheet next to the name of the object.
10. Repeat steps 7, 8 and 9 for each of the objects given.
11. After all objects have been tested, order the objects from least to greatest in the amount of effort needed to lift them.

Object	Effort Required	Order Number?
		
		
		
		
		
		
		
		
		