

# Making Balance Scales

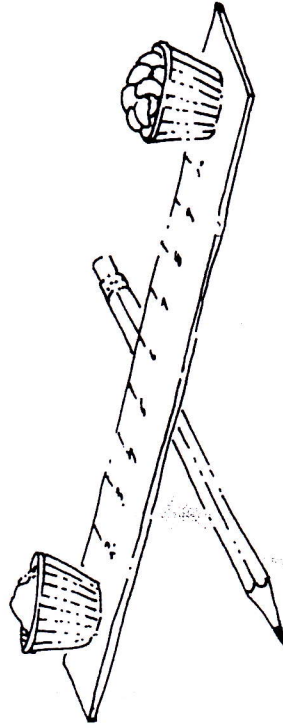
*You may be able to buy balance scales from a hardware or variety store, or at a garage sale. You may also be able to borrow them from the nearest school. Professional scales are a great help for serious projects.*

*There is a great deal of benefit, however, in helping children experiment with making their own balance scales. Here are some ideas to start with, but you and your family will have many more.*

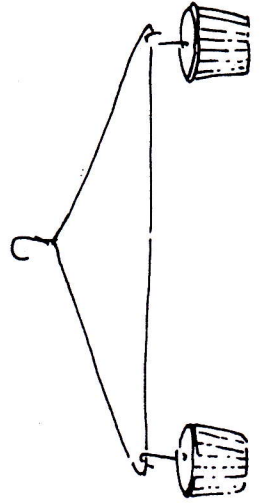
*Some of these scales may not work very well, so it may take really heavy things to show a difference between one object and another.*

*Others will work very well, with fine balancing. Part of the difference depends on how carefully they are made. ◀*

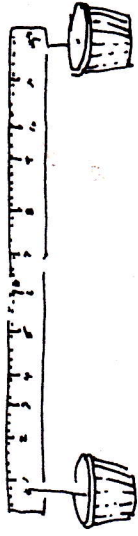
- Use a small round object, such as a pencil, and balance a ruler on top of it. Put a small paper cup carefully on each end of the ruler, and re-balance. Put beans or other small objects into the cups. Experiment with various objects. How many paper clips balance a marble?



- Use a coat-hanger, with two paper clips and two light-weight paper or plastic cups. Make a balance that looks like this, and hang it from a hook or the top of a door or window. Try putting various objects into the two cups to do balancing experiments.

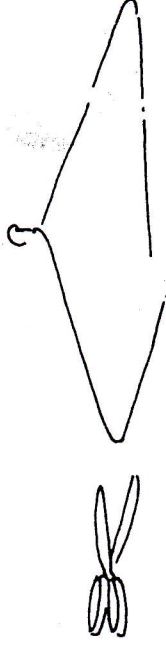


- Use an old ruler (that you don't care about) or a stick about the size of a ruler. Drill three holes in it:

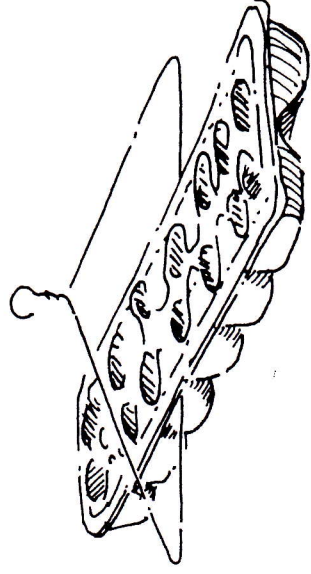


- Fasten paper clips and cups to each end, a string to the center, and hang the structure from a nail or the top of a door. Add very small weights (beans or bits of clay) until the scale balances.

- Cut a clothes-hanger with a wire cutter.



- Remove the top of an egg carton, saving the partitioned portion. Push the straight part of the hanger through the center of the egg carton. Hang the hanger from a door-top, or have someone hold it. Add very small weights until the scale balances.



- Now think up some balance scale ideas of your own.