

How to make a topo salad-tray model

1. Pick a feature you would like to model. Islands work well, because they have well-defined boundaries. But mountains, canyons, or any feature with enough topographic relief will work.
2. Get a topographic map of the feature you want to model. The Earth Science Information Center at the U.S. Geological Survey is a good source.
3. Get some plastic salad trays. You will need at least 7 or 8 - it's a good idea to have a few extras. They can be purchased at Smart and Final. You can also save trays from delicatessens and bakeries.
4. Find a reducing/enlarging photocopier and use it to adjust the size of the feature you are modeling so it is almost as large as the flat bottom of a plastic salad tray.
5. Once you have the correctly sized photocopy, use a marker to darken just those contour lines you want to transfer to salad trays. In picking the topo lines to transfer, remember two things:
 - The difference in elevation between adjacent pairs of contour lines should always be the same. This difference is called the contour interval - the contour intervals are 100 feet for the Angel Island model (see attachment).
 - The models seem to work best if you have 7 or 8 contour lines (equal 7 or 8 salad trays).
6. Let's call the photocopy with the darkened contour lines the "master copy." Using scissors, trim the master copy so that it just fits the flat bottom of the inside of a salad tray. Getting the fit as tight as possible will help you put the master copy in the same position in each salad tray, and this will help the contour lines on the salad trays line up properly.
7. Position the master copy in the bottom of a salad tray, with the darkened contour lines against the plastic. Secure with tape so the master copy won't move while you are tracing.
8. Looking through the bottom of the salad tray at the master copy, use a permanent marker (black seems to work best) to trace one contour line onto the salad tray*.
9. Remove the master copy and position it in a second tray. Trace another contour line onto the second salad tray.
10. Continue until each contour line is on its own salad tray. It's a good idea to add the name of the feature, a scale bar (showing how long a mile is, for example), and a north arrow on the top or bottom salad tray. Label each tray with the elevation of the contour line on that tray.
11. Have fun!

* Tip: Oil from your hands can prevent the marker from writing on the plastic. A tissue beneath your writing hand (and used to wipe each tray before you start tracing) will help.