

Grungy Groundwater: The Plexiglas Model

(not to scale)

Sheets of plexi may be purchased either locally, or from national materials vendors such as McMaster-Carr. (My local vendor is also on the web: www.gepolymershapes.com)

Sheets are 1/4", or approximately .5 cm in thickness. A piece measuring 2' x 4' should provide enough material for 2 or 3 models. Plexi may be cut on a table saw, but please use good ventilation. Use a saw blade for plastics (many small teeth).

Key to Parts

- A** Tank
- B** Joining strip
- C** Dividing panel
- D** Tower
- E** Base

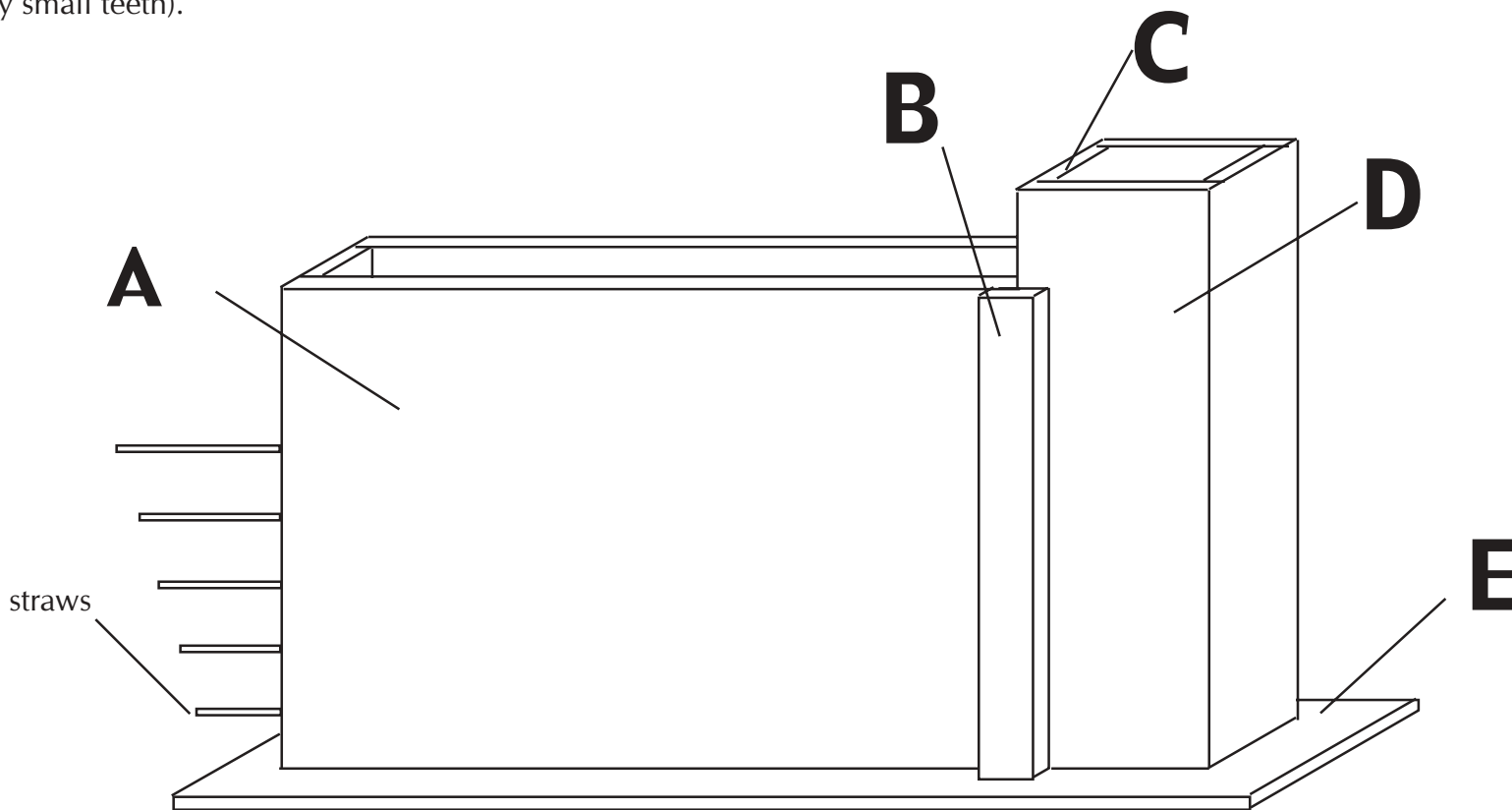


Figure 1: Front view

Figure 2:
Top view

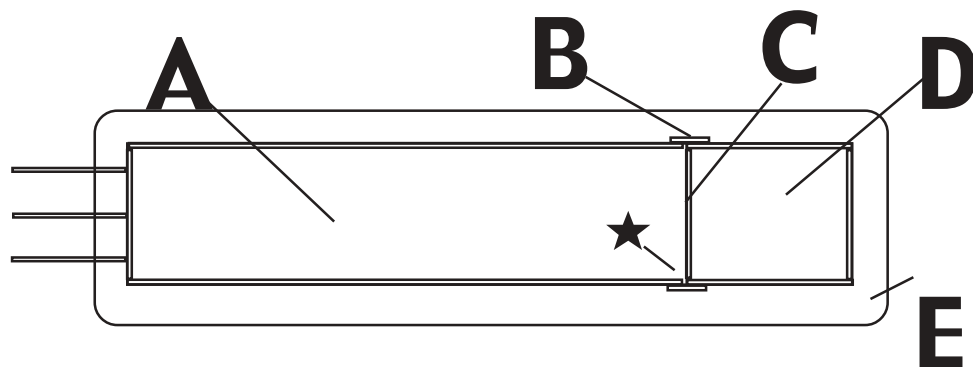
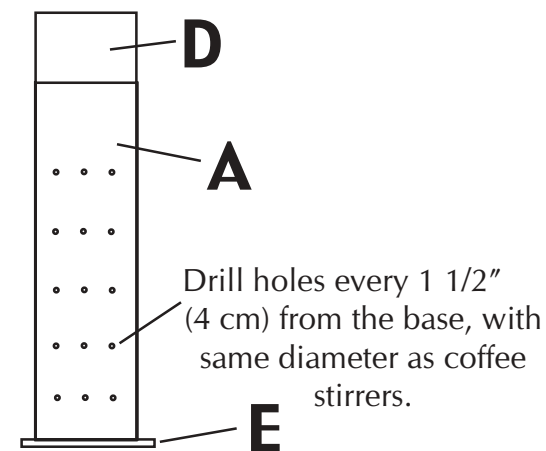


Figure 3:
Left View



Parts List

Part	Piece	Dimensions	Notes
A	Large Tank Panel	12" high x 15 1/8" wide 30 cm high x 38 cm wide	Cut 2 pieces
	Small Tank Panel	12" high x 2 3/4" wide 30 cm high x 7 cm wide	Cut 1 - This piece must be drilled before piecing model together
B	Joining Strip	12" high x 3/4" wide 30 cm high x 2 cm wide	Cut 1 piece
C	Dividing Panel	3" high x 2 3/4" wide 7.5 cm high x 7 cm wide	Cut 1 piece - The top of this piece is flush with the tower. The piece will not reach down to the base.
D	Large Tower Panel	14" high x 3 1/4" wide 35.5cm high x 8.25 cm wide	Cut 2 pieces
	Small Tower Panel	12" high x 2 3/4" wide 30 cm high x 7 cm wide	Cut 1 piece
E	Base	5" deep x 20" wide 12.5 cm deep x 51 cm wide	Cut 1 piece

Before Assembly:

1.) Purchase the materials required. The additional materials required for construction are:

- Metal mesh insert separating tank from tower (you'll need to purchase at least a #40 mesh (40 wires/inch) to allow water to pass from tower to tank, without allowing sand or clay through from tank to tower.
- Glass or plastic beads to fill tower to water line (craft store beads seem to work, cost very little)
- Nylon mesh to cover outside wall of the Small Tank Panel (stockings work)
- Solvent cement for acrylic/ plexiglas - used for construction (there are a variety available, both high and low viscosity)

2.) Before assembling the model, drill the holes into the small tank panel. These are the "wells" where the water will drip from the tank. Lay out and lightly center punch 15 holes. Use drill bits for "plastics and laminates" to avoid cracking the plexi. Back up the plexi sheet with a piece of wood or plywood when drilling.

3.) Plexi pieces may be joined by using a Plexi solvent. The solvent should be available wherever Plexi is purchased. This solvent will require excellent ventilation, and should not be applied without gloves. Follow the manufacturer's directions for application. (One available solvent: IPS Weld-On #16, Clear, Thickened Cement for Acrylic Sheet)

4.) Please note while assembling that the large tank panel (**A**) and the large tower panel (**D**) should NOT be joined to one another directly. Looking at Figure 2: Top View, there should be a small gap inside the tank (located at the ★), to allow for the metal mesh to be inserted. The joining strip is to be attached to the outside walls of these two pieces to hold the model together, and keep it water-tight.