**Groundwater Model**: Needed Materials for ONE three-pump model (for three students)

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| Material | Cost, sources (subject to change) |
| 1 Plastic Shoe Box | $1.00 |
| 2” of ¾” white PVC pipe (scrap) | $1.50 new |
| 3 x ¾” white PVC “T” connectors | $ .30/ea = ~$1.00 |
| 3 large condiment/shampoo/soap pumps | $.50 at cosmetic outlet store or free atop warehouse-size soaps and shampoo bottles. |
| 3 zip-ties | Packs of 20 are $1.00 or so. |
| 1 square foot of garden ground cloth | $.07 ($10 for roll of 150 square feet) |
| 5-10 lbs of sand | $5 for 50lb bag |

Make 1: $25 total

Make 10: $70 total

**Construction Tools Needed:**

1. PVC Pipe cutter or hacksaw blade.
2. Hobby knife (like an X-acto knife).
3. Drill + 1/16” drill bit (or smallest you can find)+ 3/16” drill bit ( no bigger than ¼”)  
   OR soldering iron with normal and needle tip  
   OR blow torch + nails + pliers to melt holes into PVC
4. Scissors
5. Measuring Tape
6. Pencil/Pen

*Model construction and development by Ryan Hollister*