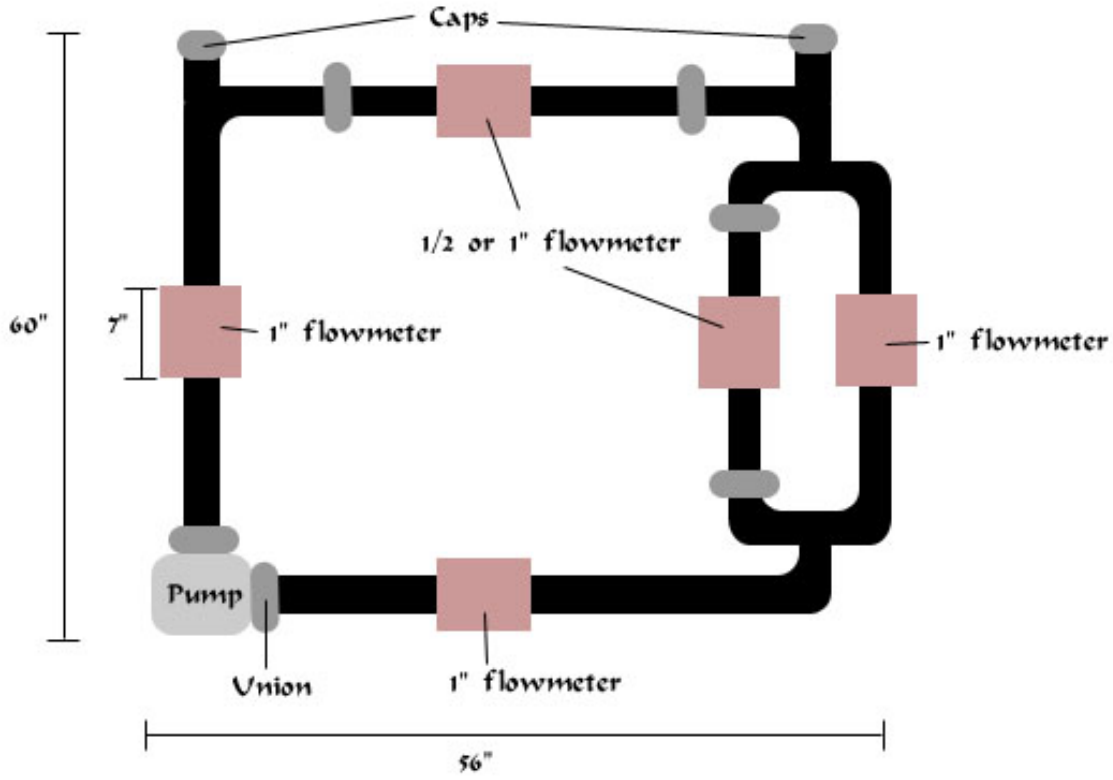
Flow Model

Equipment	Quantity	Company	Address
Pump: Teel Sealless Centrifugl Canned Motor Pump - 4RA11	1	Grainger	www.grainger.com or local outlet
Inline Flowmeter: Omega 1" FL505	3 to 5	Omega	www.omega.com
Inline Flowmeter: Omega 1/2" FL-6310A	0 to 2	"	"
Pipe: Schedule 40 Clear PVC 1"	about 50 ft	Excalibur Extrusions	www.excaliburextrusions.com or local pipe shop
Pipe: Schedule 40 Clear PVC 1/2"	about 10 ft	"	"
Standard PVC Cement	pint		
Standard Lubricant Tape for pipe threads	10'		
Connectors -		Lasko	Any hardware or piping store
1" Thread-Thread Unions	6		
1" Male Adapters	about 25		
1" Threaded Cap	2		
1" Slip to Slip 90° Elbow	5		
1" T - Joints	4		
3/4" Female Thread to 1" Male Thread Bushing	2		
1/2" Female to 1" Male Slip Bushing	2 to 4		
1/2" Male Adapters	2 to 4		

Example Flow Model



Comments: The sizes are relative. It depends on how big you would like to make the model. We found that we did not model laminar flow (reduced resistance) when we had the pipes too short after the flow meters so we typically tried to use about 10 to 20 inches after every flow meter before a turn or the pump. The water will flow clockwise in the drawing and one will need to set the flow meters accordingly. The way we got water in and out of the system was through open pipes at the tops and then we capped them to run the system. We used unions in order to be able to make certain parts interchangeable and to take the pump off easily. If you would like to make a number of systems you need to be sure to make the interchangeable areas (areas between the unions) the exact same length. In these areas we made 1" and ½" pipes to show the effects of different piping. The inlet and outlet on the pump is ¾" male thread so be sure to use that connection there. Any hardware store will have the PVC cement and lubricant tape. BE SURE TO USE LUBRICANT TAPE ON ALL THREADS. If you do not you will have a very leaky system.