**Circular hose experiments**

1. 2 X 45 inches of tubing (90 inches total)

 (1/2 inch OD outer diameter, 3/8 inch ID inner diameter)

2. 2 couplings for 3/8 inch hose

We used ½ to 3/8 Poly-E reducer connector Order # 062019 US Plastic Company

3. Pebbles

4. super glue to glue mass for simulated atherosclerosis

5. water

6. pepper (spice) for seeing the water flow and turbulence of flow

**Differential flow set up**

1. 2 X 60 inches & 1x 12 inches of tubing (132 inches total)

(1/8"ID X 3/16"OD X 1/32" Wall Excelthane Polyurethane Tubing , Part 54501 US Plastic Company)

2. 2 x25inches, 1x 60 inches of tubing (110 inches total)

(3/16"ID X 1/4"OD X 1/32" Wall Excelthane Polyurethane Tubing, part 54504 US Plastic Company)

3. 2 T-couplings for 3/16 OD hose (They work when forced) (Part 064345 US Plastic Company)

4. One 3way stopcock to fit hose (1/8"ID )

(Sigma-Aldrich part S7521- 10 in pack, stopcock 3-way Luer lock)

5. 50 or 60 ml syringe , Sigma-Aldrich part Z683698, 30 in a pack, $80 for pack)

Or

US Plastic Company, 60 cc/ml Dispensing Syringe 3/16" I.D. x 6 1/2"

Item #: 66384, Manufacturer: Plas-Pak, Manufacturer Part #: 60B12/C12B

5. red food coloring

6. water

7. Plastic shoe box to catch excess water

8. twist ties

9. A wire frame to hold the set up

Walmart: Whitmor Black Wire Storage Cubes, Set of 4 for $25

( just need ½ of kit for projects)

**Linear Vertical Flow**

1. 2 plastic funnels, wide neck. (9 mm × 43 mm stem, 50 mm top)

(Sigma-Aldrich part Z637548, 24 in a pack $28)

2. Various size tubing from Home Depot, that slip into each other, with about 5 inch each starting with

 OD (outer diameter) of 11/16 inch then going down to small OD 3/16 inch

3. A wire frame to hold the set up

Walmart: Whitmor Black Wire Storage Cubes, Set of 4 for $25

( just need ½ of kit for projects)

4. water

5. Plastic shoe box to catch excess water

6. 2 beakers or cups

7. food coloring

8. pinch clamp … can use a clothes pin

9. Pancake syrup

10. Stop watch or timer on phone

11. twist ties

**Windkessel effect pressure**

1. 8 feet of 3/8 inch inner diameter hose/tubing

2. one T connector (to fit a 3/8 inch inner diameter hose/tube) Home Depot (Watts brand # A-291)

3. Yard stick

4. a shoe box to collect waste water

5. pinch clamp (clothes pin)

6. Pump Gallon bottle with pump (Part 66078 US Plastic Company )

 (Gallon Translucent Bottle and Pump 38mm Cap $2.84)

7. Water

8. party balloons (long thin ones) To fit the tubing.

9. A wire frame to hold the set up

Walmart: Whitmor Black Wire Storage Cubes, Set of 4 for $25

( just need ½ of kit for projects)

10. twist ties