Food Chain Chambers

Materials for four chambers
• 8 two-liter soda bottles
• 4 soda bottle caps
• utility knife
• hammer
• nail
• permanent marker
• 3 spiders
• 4 twigs
• banana slices

Directions for One Chamber

1. Remove the labels from the bottles.
2. Cut bottle #1 between the shoulder and the neck—about 2.5 cm (1 in.) above the shoulder. Remove the top part.
3. Unscrew the cap from the top of bottle that you just cut. Punch a hole in the cap using a hammer and nail. The hole should be about 2 cm (a little less than 1 in.) in diameter. Screw the cap back on.
4. Cut the second bottle 2.5 cm (1 in.) above the hip.
5. Fit the top of bottle #1—cap pointing up—into the bottom of bottle #2. This will be the fruit fly chamber.
6. Invert the remainder of bottle #1 over the fruit fly area, and fit it into the base. This is the spider area. Slice a little trap door into which you can place a spider (and then tape it closed).

Make a total of four chambers.
Vary the four chambers as follows:
• Chamber 1, the control chamber, includes a spider, fruit, and access for fruit flies to enter (two small holes cut into the feet of bottle #2).
• Chamber 2 contains a spider and access for fruit flies, but no fruit.
• Chamber 3 contains a spider and fruit but no access for fruit flies.
• Chamber 4 contains fruit and access for fruit flies, but no spider.