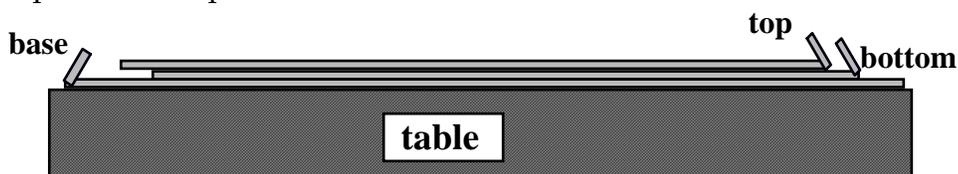


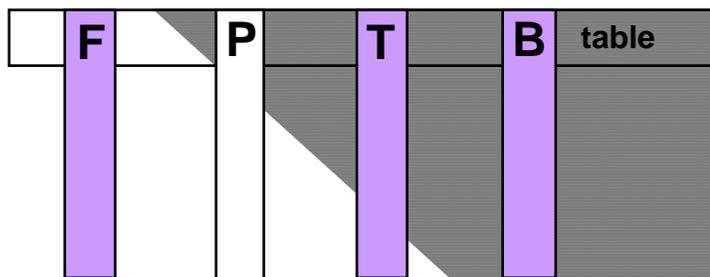
Chemistry - Unit 4 Sticky Tape Activity

Part 1 – Preparing the tapes - examining their behavior

1. Take a 15 cm piece of transparent tape and make a handle on the end by folding under the first cm of tape, sticky side to sticky side. Place this tape on the lab table. This is the base tape.
2. Attach a second similarly prepared strip of tape onto the base tape. Label this tape “B” for bottom.
3. Attach a third similarly prepared strip of tape onto the bottom tape. Label this tape “T” for top.



4. Repeat steps 1 through 3 above. You now have two sets of 3-layer tapes.
5. Cut 2 pieces of paper, the same dimensions as the tapes, and hang one from the edge of the table. Label the hanging paper “P.” Approach the hanging paper with the other piece of paper. *Describe what you see.*
6. Cut 2 pieces of aluminum foil, the same dimensions as the tapes, and hang one from the edge of the table. Label the hanging foil “F.” Approach the hanging foil with the other piece of foil. *Describe what you see.*
7. Peel one set of T and B tapes from its base tape, keeping the T and B tapes together. Run your finger down the non-sticky side, then quickly peel them apart.
8. Hang each strip next to the hanging paper and foil.



9. Repeat step 7 with the other set of tapes.

10. With a T tape hanging from one hand and a B tape hanging from the other, experiment by approaching each of the hanging tapes, the strip of paper and the foil strip. *Describe what you see. Be sure to describe not only the kind, but also the relative strength of the interaction as you bring each of the tapes near the hanging tapes and strips.*

Part 2 - Our Model of the Atom and the assignment of (+) and (-) charges

Our current model of the atom is consistent with the existence of 2 types of charge. An atom has a positively charged nucleus surrounded by mobile negatively charged electrons. Materials become charged by the gain or loss of these mobile electrons. Based on a number of observations we have assigned the label of negative (-) to a hard rubber or plastic rod when rubbed with fur or wool. The fur or wool, having lost electrons to the rubber or plastic, becomes positively charged (+).

11. Rub a plastic comb with wool and approach the T tape, then the B tape with the comb. *Describe what you see.*
12. Based on your observations from using the comb, label the T and B tapes with either a + or -. Restate the interaction between T and B tapes using the terms positive and negative instead of top and bottom.
13. Approach the hanging strip of paper and foil with the comb. Then approach the hanging strip of paper and foil with the piece of wool. *Describe what you see.* How does the strength of these interactions compare to those observed with the T and B tapes?