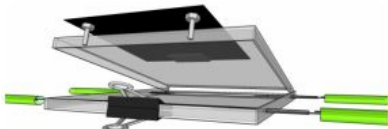
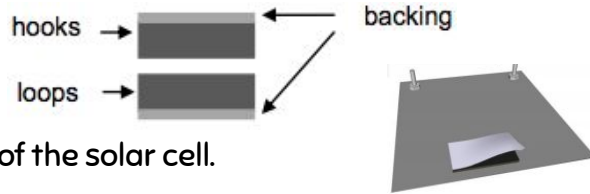


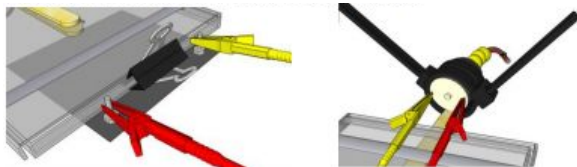
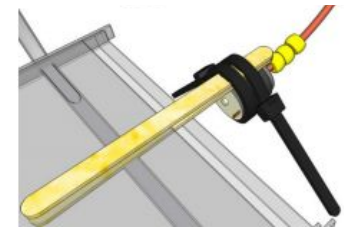
JITTERBUGS!

9. Assemble the solar cell by joining the two pieces of Velcro. Peel the backing off the "loops" (fuzzy) side of the Velcro and attach to the back of the solar cell.



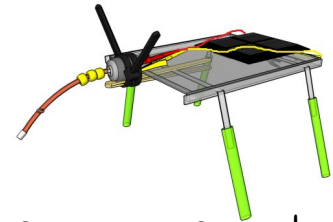
10. Peel the remaining backing off the Velcro. Place the solar cell on the CD case as shown, press firmly.

11. Turn CD case over. Insert the motor assembly into the wide slot on the hinge end of the CD case as shown. One stick fits between the straw and the inside of the CD case – the other stick goes outside the case. Push until the motor is next to the case.



12. Attach wires to motor & solar cell as shown.

13. Bend legs as shown and adjust until bug does not fall over. Move the motor towards the CD case if needed. Peel the clear film off the solar cell.



14. Take a couple minutes to decorate the top of your jitterbug. You may use pom poms, googly eyes, etc. from the Design Lab materials. Make sure you do not cover the solar cell.

15. Tests: (Record results on your worksheet)

- Test #1: Place the jitterbug in direct sunlight and see what happens! Draw and describe your jitterbug's movement in your Student Worksheet.
- Test #2: Try moving the rubber band and beads toward or away from the motor. Draw and describe the changes to the jitterbug's motion.
- Test #3: Change the angle of the paperclip legs make to the jewel case or cut the ends of the straw feet to a different angle. Draw and describe the changes to the jitterbug's motion.
- Test #4: Tilt the solar cell by raising the jewel case cover; use the binder clip to maintain the angle. Draw and describe the changes to the jitterbug's motion.
- Test #5: Reverse the wires going to the motor to reverse the way the motor spins. Draw and describe the changes to the jitterbug's motion.

20. Analyze the results and complete question #8 on the Student Worksheet.