Helicopter Drop
Lab Instructions

6. Using the digital scale or triple beam balance, weigh your helicopter. Record the mass in kilograms on your Data sheet.

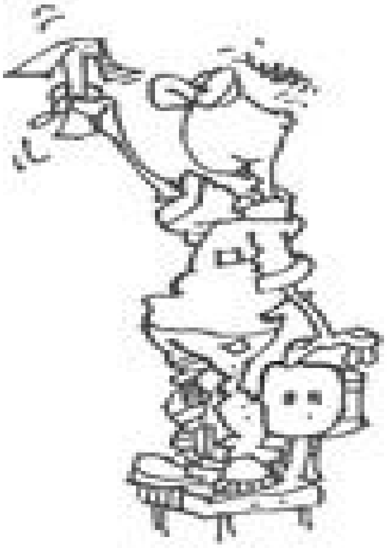
7. Assume the helicopter flying position. Stand on a chair and extend your arm with the helicopter in the air just barely touching the paperclip hanging from the ceiling; this is 2 meters above the floor. Place your other hand on your hip. Drop said invention from outstretched, overhead arm. Make appropriate ooh-aah noises. If the spirit of Sir Newton is with you, your helicopter will twirl to the floor.

8. Now that the excitement has subsided, drop the helicopter again, and note whether the "rotors" (those would be the big flaps on top of the helicopter) are spinning clockwise or counterclockwise. Record your observations.

9. Nab the helicopter, flip the "rotors" to the opposite sides of the body, and drop it again. On the next page, record whether the "rotors" are spinning clockwise or counterclockwise, now that they have been reversed.

10. Point the rotors down before you start (rather than up) and drop the helicopter again. Determine if the rotors spin faster or slower. Record your observations in the space provided.

11. Finally, note the paperclip hanging 2 meters above the floor. Hold the helicopter at the 2 meter spot with your rotors pointing up at 45 degree angles and release it. Record the amount of time that it takes to hit the floor. Repeat this experiment 3 times and record the times in the data table on the row for Helicopter #1.



12. Snip 3 centimeters off the end of each rotor and drop the helicopter from the 2 meter mark again and time the fall. Make sure your rotors are pointing up toward the ceiling. Do this a total of three times and record all three measurements in the data table in the row for Helicopter #2.

13. Snip 3 centimeters off the end of each rotor a second time and drop the helicopter from the 2 meter mark again and time the fall. Do this a total of three times and record all three measurements in the data table in the row for Helicopter #3.

14. When you are done with your experimenting calculate the kinetic and potential energy for each helicopter.

15. Finally, create a helicopter that has rotors on the top and bottom and bring it to your next lab period.