

TESTING PROCEDURES:

In Science room:

- 1) Securely attach a rubber band to the Lego person around arms & shoulders (done)
- 2) Attach a small paper clip (bent open) securely to the string ends and to the Lego person/rubber band
- 3) Using a triple-beam balance, determine a) the mass of the Lego figure & the harness, also then b) the mass of parachute, Lego figure & harness
- 4) Write this on the data table, bottom row.
- 5) **Height of balcony railing is 594 cm; add to data table**

In testing site area:

- 6) Partner #1, hold the parachute by the top center of the canopy
- 7) On the 2nd floor, holding the canopy center, drop the parachute from the edge of the railing.
- 8) Partner #2, while standing on the first floor, time the parachute from the exact moment it dropped until the Lego figure hits the floor.
- 9) Make observations each trial on data table
- 10) Record *time* on the data table
- 11) Repeat steps #4 - #7 at least two more times. **
- 12) Calculate the speed of the parachute drop.
- 13) Write the speed in the data table.
- 14) Calculate the average speed and write in data table (Go to Step 21)
- 15) Calculate the acceleration of the parachute drop.
- 16) Write the acceleration in the data table.
- 17) Calculate the average acceleration & write in data table
- 18) Calculate the momentum of the parachute drop.
- 19) Write the momentum in the data table.
- 20) Calculate the average momentum & write in data table
- 21) **Graph** the trials/speed and also the average speed (This will be a double bar graph with the results of the first prototype tests & improved parachute tests)

For students who would like to get an A, do Steps 13 - 20 on separate graphs

** Try to drop the parachute the same way, from the same point, each time. Do more than 3 trials if time allows.