UNIT 3: GETTING OUT OF LINE

Upon completion of this unit, the student should be able to:

1. State and apply Newton's third law of motion.

2. Describe the four fundamental forces of nature.

3. Distinguish between a vector and a scalar and give examples of each.

4. Add vectors graphically and mathematically. Use in practical applications.

5. Resolve a vector into its two perpendicular components. Use in practical applications.

6. Describe the relationship between the components of weight acting on an object on an incline, calculate each value from given data, and apply your answers to find other values.

7. For an object on an incline, describe the relationship among the force of friction, the coefficient of friction, and the component of weight holding the surfaces together, and calculate each from given data.

Reference: Holt Physics, Chapters 3 (pp. 82-93), 4 (pp. 132-134, 143), Appendix A

Homework: Action-reaction handout, problem sets on back

Labs: Balloon rockets, addition of vectors, flight/nautical vectors, resolution of forces, weight of the world, parking on a hill, g on an incline