Name \_\_\_\_\_

Date Hr

PHYSICS Unit IV Worksheet 4

For each of the situations compare the forces exerted by the blocks on each other as they move on a table with some friction.

a. Indicate which is true for each situation (1-4) in the blank provided.

A block **A** exerts a greater force

B block **B** exerts a greater force

C the forces are equal

1. In the space to the left of each diagram, draw a force diagram for block B; to the right, draw a force diagram for block A. Use three letter notation on each diagram.
2. Circle which two forces are third law force pairs.

1.



2.



3.



4.



1. One book lies on top of a second book, which rests on a table. Construct a force diagram for each book and identify in words the cause (agent) of each force. Indicate which, if any, of the forces shown in your diagrams are Newton’s third law pairs.
2. A person exerts an upward force of 40 N to hold a bag of groceries. Describe the “reaction” force (Newton’s third law) by stating:
   * + - 1. Its magnitude
         2. Its direction
         3. On what body it is exerted
         4. By what body it is exerted
3. For each force name its third law force pair.
   1. A desk pushes down on the floor.
   2. A rope pulls up on a hanging weight.
   3. The Earth pulls down on a falling apple.
   4. An electro-magnet pulls on an iron bolt.
4. A pesky mosquito is buzzing across Clairemont Avenue when all of a sudden it is hit by a large truck. The truck hits the mosquito with a force of 500 N. What force does the mosquito apply to the truck.