

Name \_\_\_\_\_ Date \_\_\_\_\_ Pd \_\_\_\_\_

## Unit 4 - Worksheet 9 – Action/Reaction Pairs

To answer the questions below, you should draw a picture of the scenario described in the question. Your picture should include arrows demonstrating the forces given in the problem. You should then describe what is happening in terms of Newton's Third Law. An example is given below.

EXAMPLE: A student shoots a basketball in gym class. What pair of forces are acting on the ball and student? What happens to the ball, and the student?

1. A diver dives off a raft - what happens to the diver? The raft? What are the action-reaction forces acting on the diver and the raft?

2. A tennis racquet hits a tennis ball. What are the forces on the racquet and ball? Why doesn't the racquet swing backwards when the ball hits it? (Shouldn't it swing back because of action-reaction forces?)

3. What action-reaction forces are involved when a rocket engine fires? Why doesn't a rocket need air to push on?