

Newton's 3rd Law Worksheet 2

Physics

Name _____

Period _____

Choose the best answer for each question from the choices below. *Be clear about which answer you are circling—none of this trying to circle 2 answers and be sloppy so I'll just count it correct ☺* And then explain why you have chosen the answer you chose. Good Luck!!!

1. Newton's 3rd Law states...
- a. Objects in motion stay in motion and objects at rest stay at rest
 - b. Force is equal to mass times acceleration
 - c. For each action there is an equal and opposite reaction

Why??? _____

2. An archer shoots an arrow. The action force is the bowstring against the arrow, The reaction force is...
- a. Air resistance against the bow
 - b. Arrow's push against the bowstring
 - c. Grip of the archer's hand on the bow

Why??? _____

3. A player catches a ball. The action force is the impact of the ball against the player's glove. The reaction force is...
- a. The force the glove exerts on the ball
 - b. The player's grip on the glove
 - c. The friction of the ground on the player's shoes

Why??? _____

4. A player hits a ball with a bat. The action force is the impact of the bat against the ball. The reaction force is...
- a. The grip of the player's hands on the ball
 - b. The air resistance on the ball
 - c. The force of the ball against the bat

Why??? _____

5. A baseball player bats a ball with a force of 1,000 N. The ball exerts a reaction force against the bat of...
- a. Less than 1,000 N
 - b. More than 1,000 N
 - c. 1,000 N

Why??? _____

6. A person is attracted toward the center of the Earth by a 500 N gravitational force. The force that the Earth is attracted toward the person is...
- a. 500 N
 - b. Much less than 500 N
 - c. Much more than 500 N

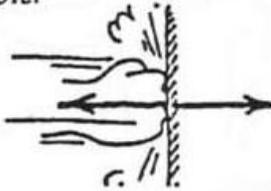
Why??? _____

Chapter 5 Newton's Third Law of Motion

Action and Reaction Pairs

1. In the example below, the action-reaction pair is shown by the arrows (vectors), and the action-reaction described in words. In (a) through (g) draw the other arrow (vector) and state the reaction to the given action. Then make up your own example in (h).

Example:



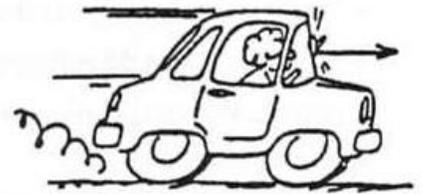
Fist hits wall.

Wall hits fist.



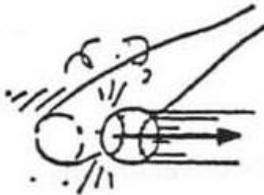
Head bumps ball.

(a) _____



Windshield hits bug.

(b) _____



Bat hits ball.

(c) _____



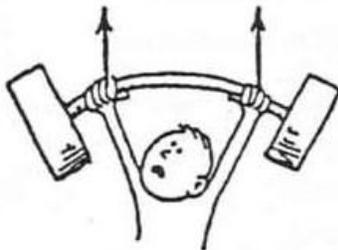
Hand touches nose.

(d) _____



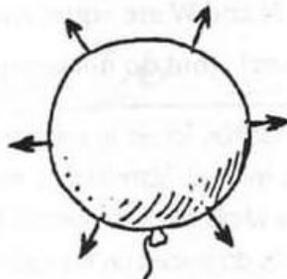
Hand pulls on flower.

(e) _____



Athlete pushes bar upward.

(f) _____



Compressed air pushes balloon surface outward.

(g) _____

(h) _____

