

_____ Name _____ Date _____

Directions: Identify which of Newton's Laws of Motion is being demonstrated in each of the following scenarios:

Scenario 1 One foggy Christmas Eve, Santa's sleigh was so heavily laden with gifts for the good little boys and girls of Nashville that the jolly old fellow had to employ his reserve reindeer, Clyde and Bubba, to assist the other eight members of his team. It took the combined force of the ten powerful animals to pull Santa's sleigh up into the starlit sky.

Scenario 2 As Santa's sleigh was pulled forward, faster and higher, a little stuffed brown bear fell undetected off the back of the sleigh. Some little child is going to be very disappointed.

Scenario 3 Fortunately for Nashville's youth, the Santa and his team arrived on time. Spying the first housetop, Santa maneuvered his team for a landing. Unbeknownst to him, the children who lived there had left a treat on the roof for Santa's reindeer. The reindeer saw the treat and raced as fast as they could for the yummy oats and berries. They glided in, then they stopped so quickly that Santa flew forward and bumped his head on the front of the sleigh. Obviously, he had forgotten to fasten his seat belt!

ANSWERS:

Scenario 1: Newton's Second Law: *The acceleration of an object as produced by a net force is directly proportional to the magnitude of the net force, in the same direction as the net force, and inversely proportional to the mass of the object.*

Scenario 2: Newton's Third Law: *For every action, there is an equal and opposite reaction.*

Scenario 3: Newton's First Law: *An object at rest tends to stay at rest and an object in motion tends to stay in motion with the same speed and in the same direction unless acted upon by an unbalanced force.*