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Motion and Forces 1&2

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| **Across**  **2.** the quantity that has both size and direction  **6.** the total momentum of a system of objects does not change, as long as no outside forces are acting on that system  **7.** force equals  **8.** a situation in which two objects in close contact exchange energy and momentum  **10.** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a place or an object is the location of that place or object  **13.** the rate at which velocity changes with time  **15.** momentum equals  **16.** a measure of how fast something moves, or the distance it moves  **17.** speed equals  **18.** the acceleration of an object increases with increased force and decreases with increased mass  **19.** any force that keeps an object moving in a circle  **20.** states that every time one object exerts a force on another object, the second object exerts a force that is equal in size and opposite in direction back on the first object | **Down**  **1.** a location where you compare other location is called  **3.** a measure of mass in motion  **4.** The change of position over time  **5.** a push or pull on an object  **9.** the overall force acting on an object  **11.** a speed in a specific direction  **12.** states that objects at rest tend to stay at rest unless acted upon by an unbalanced force  **14.** the resistance of an object to a change in the speed or the direction of its motion |

   position       Motion       reference point       speed       distance divided by time       vector       velocity       acceleration       force       net force       Newtons first law       inertia       mass times acceleration       Newtons second law       centripetal force        Newtons third law       momentum       mass times velocity       collision       conservation of momentum