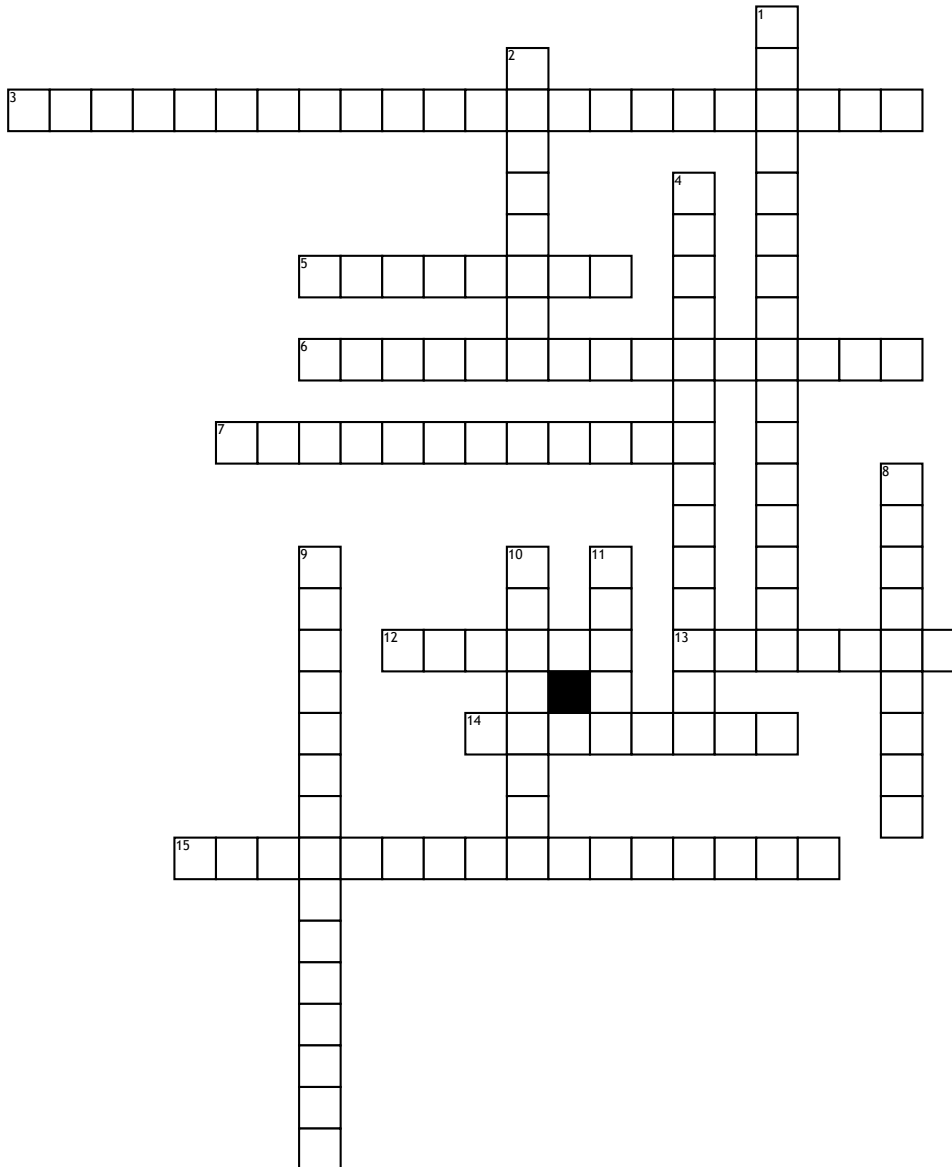


# Motion and force



## Across

3. the total momentum of a system of objects does not change as long as no outside forces are acting on that system  
 5. Speed in a specific direction  
 6. An object at rest will stay at rest unless acted upon by an outside force and an object in motion will stay in motion unless acted upon by an outside force

7. The rate at which velocity changes with time  
 12. A quantity that has both size and direction  
 13. the resistance of an object to a change in the speed or the direction of its motion  
 14. The measure of mass in motion  
 15. The direction at which an object accelerates is the same direction as the force  $F=ma$

## Down

1. Keeps an object moving in a circle

2. Location of an object  
 4. A location which you compare other locations to  
 8. When two objects in close contact exchange both energy and momentum  
 9. For every action there is an equal; and opposite reaction  
 10. The overall force acting on an object  
 11. Push or a pull