**General Physical Science**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period\_\_\_\_\_\_\_\_\_\_

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| I can… |
| *define and apply concepts of motion.**apply knowledge of speed to velocity and acceleration scenarios.* |

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| Bellwork |
|  | *If the box is NOT moving, and then the student pulls on it, will its velocity* ***decrease,******increase*** *or* ***stay the same****?* |
| Circle oneDECREASE INCREASE STAY THE SAME |

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| ***Motion Notes*** |
| * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the rate at which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes over time.
* And object accelerates if its ­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or both.
* Acceleration can be a change in speed.
* Acceleration can be a change in direction.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is constant acceleration.
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| * Acceleration is the rate at which velocity changes.
* Acceleration Equation (for straight-line motion)
* $Acceleration= \frac{final velocity-initial velocity}{time}= \frac{∆v}{t}$
* In SI units, acceleration is measured in \_\_\_\_\_\_\_\_\_\_ per \_\_\_\_\_\_\_\_\_\_\_\_ per \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (m/s/s or m/s2).
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| **Math Skills** |
| ***Practice some velocity problems on your own.*** |
| $Velocity= \frac{distance}{time}$ AND direction1. A plane travels 1000 miles in 5 hours in the eastward direction. What is the plane’s velocity in miles per hour?
2. A kid on a bicycle rides down a hill 500 meters long in 50 seconds. What is the velocity in meters per second?
3. A plan travels 500 miles south and the trip takes 5 hours. What is the velocity in miles per hour?
4. A car travels north at uniform velocity a distance of 100 meters in 4 seconds. What is the velocity of the car in meters per second?
5. A sailboat is traveling north 10,000 meters and it takes 16 hours to reach its destination. What is the velocity in meters per hour?
6. A sprinter runs 100 m in 10 s eastward. What is his average velocity in m/s?
7. It takes an olympic runner 1 second to run 5.69 meters westward. What is his velocity in m/s?
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