**FPS – Motion Notes**

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

|  |
| --- |
| I can… |
| *define and apply concepts of motion.*  *apply knowledge of distance and displacement.*  *Solve and interpret speed problems.* |

|  |
| --- |
| Bellwork |
| What is a frame of reference? |

|  |  |  |
| --- | --- | --- |
| ***Motion Notes*** | | |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is an object’s change in position relative to a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the change in the position of an object. 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ measures the total path taken. 4. Displacement is the **change** of an object’s position. Displacement must always indicate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | |
| 1. http://playbackonline.ca/wp/wp-content/uploads/2010/10/Scaredy-Squirrel.jpgA squirrel walks from a tree (position 0m) to his hole in a log (position 1m) in 1 sec. He hears a dog coming and springs to another tree (position 5m). The squirrel remains stationary in the tree for 2 sec until he feels safe enough to sprint back to the log (1m) in 1 sec.   **5m**  **0m** | | |
| 1. Let’s make a position vs. time graph. A squirrel walks from a tree  (position 0 m) to his hole in a log  (position 1 m) in 1 sec. He hears  a dog coming and sprints to  another tree (position 5 m).  The squirrel remains in the tree  for 3 sec until he feels safe enough  to return to the log (1 m) in 1 sec.   **Position (m)**  **Time (s)**  **0 1 2 3 4 5**  **0 1 2 3 4 5** | | |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the distance traveled divided by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ interval   during which the motion occurred. **Speed** describes how \_\_\_\_\_\_\_\_\_ an object moves.   1. Speed measurements involve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 2. The SI units for speed are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per \_\_\_\_\_\_\_\_\_\_\_\_\_ (m/s). 3. When an object covers equal distances in equal amount of time, it is moving at a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | |
|  | |  |
| 1. Speed can be studied with graphs and equations. **Speed** can be determined from a distance-time graph. When an object’s motion is graphed by plotting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the y-axis and \_\_\_\_\_\_\_\_\_\_ on the x-axis, the slope of the graph is speed. | |  |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the speed of an object in a particular \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. 2. **Velocity** describes both \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | |
| **Math Skills** | | |
|  | ***Velocity*** – Metal stakes are sometimes placed in glaciers to help measure glacier’s movement. For several days in 1936, Alaska’s Black Rapids glacier surged as swiftly as \_\_\_\_\_\_\_ meters per day \_\_\_\_\_\_\_ the valley. Find the glacier’s velocity in meters per second (m/s). Remember to include direction. | |
| **Given:**  **Unknown**:  **Perform conversions**:  **Use the equation for speed**:  **Write the velocity by including direction**: | | |