Science 10
Velocity Word Problems Assignment
Total : /35

Recall: $v = \dfrac{d}{t}$ $d = vt$ $t = \dfrac{d}{v}$

Remember to check if your units match. If they do not you need to convert.
Put all your answers on a separate sheet of paper. Show all your work!!! Don't forget to use the correct formula and convert if needed.

1. Jose wandered 4 kilometers at 2 kilometers per hour. How long did Jose wander? (2)

2. A vehicle travels 2345 m in 315 s toward the evening sun. What is its speed? (1)

3. What distance will a car traveling 65 km/hr travel in 180 min? (3)

4. How long will it take to go 150,000 m traveling at 50 km/hr? (3)

5. The world speed record on water was set on October 8, 1978 by Ken Warby. If Ken drove his motorboat a distance of 1500 m in 8.102s, how fast was his boat moving in meters per second?

6. What distance will be traveled if you are going 120km/hr for 30 min? (3)

7. How long will it take to travel 200 km traveling 10 m/s? (3)

8. A car travels 240 km in 2.0 hrs and a sprinter travels a 100 m in 9.5 s. Which is traveling faster the car or the sprinter and by how much? (4)

9. You drive a car from Milwaukee to Chicago, which is a distance of 150km and it takes you 95 min. What is its velocity in km/hr?

10. A baseball is thrown a distance of 18m. What is its speed if it takes 0.5 seconds to cover the distance? (1)

11. It took Shawn 6 hours to walk to Susan's house at 2 kilometers per hour. How far is it between Shawn's house and Susan's house? (2)

12. If Benjamin skated 80 kilometers at 10 kilometers per hour, how long was Benjamin skating? (2)

13. Evelyn rode her bicycle to Kathleen's house. It is 36 kilometers from Evelyn's house to Kathleen's house. It took Evelyn 6 hours to get there. How fast did Evelyn ride? (1)

14. After an impact involving a non-functioning satellite, a paint chip leaves the surface of the satellite at a speed of 96 m/s. After 17 seconds, how far has the chip landed? (2)

15. The space shuttle Endeavor is launched to altitude of 500 km above the surface of the earth. The shuttle travels at an average rate of 700 m/s. How long will it take for Endeavor to reach its orbit? (3)

Momentum Worksheet

Name_____

Date _____

Period ____

True or False?

_____1.) Momentum is not equal to the mass of an object divided by its velocity.

_____2.) The momentum of an object can change.

_____3.) Two objects with the same mass will always have the same momentum.

_____4.) All moving objects don't have momentum.

_____5.) When an object speeds up, it gains momentum.

_____6.) Objects with different masses can't have the same momentum.

_____7.) Direction does not matter when you are measuring momentum.

_____8.) Momentum can be transferred from one object to another.

_____9.) When objects collide, some momentum is lost.

_____10.) A tiny bullet can have more momentum than a huge truck.

Fill in the blank.

11.) A moving car has momentum. If it moves twice as fast, its momentum is _____ as much.

12.) Two cars, one twice as heavy as the other, move down a hill at the same speed. Compared to the lighter car, the momentum of the heavier car is _____ as much.

Given the following data, solve for momentum. P = *mv*

Object	Mass (kg)	Velocity (m/s)	Momentum (kg-m/s)
13.) Bird	.04	19	.76
14.) Football player	100	10	
15.) Skier	60	20	
16.) Bullet	.004	600	
17.) Frog	.9	12	
18.) Meteorite	.1	1,000	
19.) Baseball	.14	30	
20.) Wagon	2	3	
21.) Satellite	3,000	8,000	

Equation	Gives you...	If you know...
$P = mv$	Momentum	Mass and Speed
$m = \dfrac{P}{v}$	Mass	Momentum and Speed
$v = \dfrac{P}{m}$	Speed	Momentum and Mass

22.) A steel ball whose mass is 2.0 kg is rolling at a rate of 2.8 m/s. What is its momentum?

Looking for	Solution
Given	
Relationships	

23.) A marble is rolling at a velocity of 1.5 m/s with a momentum of 0.10 kg·m/s. What is its mass?

Looking for	Solution
Given	
Relationships	