

Name _____ Date _____ Hour _____

Physical Science Guided Reading 2-3

Acceleration

1. What is acceleration? _____

2. Identify three ways an object can accelerate. _____

3. Examine figure 15, use arrows to show the direction of velocity and acceleration in each of the three situations you described in question two.
4. On a speed-time graph, like the one shown in figure 16, what does the sloped lines tell us about an object? _____

5. Examine figure 16, identify the time intervals when Tamara's car is not accelerating. _____

6. Examine figure 16, between seconds 3.0 and 4.0, what is happening to the speed of the car? ____

7. What do we need to know in order to calculate the acceleration of an object? _____

What formula do we use? _____

What units do we use? _____

8. What is centripetal acceleration? _____

9. What is a projectile? Give some examples of items that are projectiles. _____

10. What force causes a projectile to accelerate towards the ground after it is released? _____

11. Describe two portions of a rollercoaster track that cause the passengers to feel large accelerations. _____

12. In each of the situations, determine whether the car experiences a positive acceleration, a negative acceleration, no acceleration or centripetal acceleration.

a. A driver presses the accelerator of his car, as the light turns green. _____

b. A NASCAR racer is traveling around the track at a constant speed of 150mph _____

c. Mom is driving north at a constant speed of 70mph _____

d. A rollercoaster has reached the bottom of the hill and begins climbing the next _____

e. You are riding a merry go round with your friends at the local fair _____

f. A rollercoaster is speeding down a hill _____