Freshman Physics Guided Notes Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How To Measure Acceleration: Making measurements at Six Flags

1. Does an accelerometer measure acceleration? \_\_\_\_\_\_\_
2. Draw a force diagram for a person standing motionless.
3. How big is the normal force on the person by the floor
compared to the force of gravity on the person by the earth?
4. How big is the force pushing forward or backward on the person compared with the force of
gravity on the person?
5. On Mr. Freeze, a 50 kg rider speeds up while moving to the right. Predict the direction of movement on the force factor meter.
6. Draw a force diagram for the rider.
7. The rider’s mass is 50 kg. How much does the rider weigh?
8. The force factor meter above reads 2.2 How big is the forward push on the person by the seat?
9. What is the size and direction of the net force acting on the person?
10. What is the person’s acceleration?
11. The guy sitting next to this rider had a mass of 100kg. What do you think his force factor meter read?
12. On the Screamin’ Eagle, a 50 kg rider goes over the crest of a hill. The FF meter is held on the head-to-toe axis. Predict the reading on the meter.
13. Draw a force diagram for the rider.

1. On the Ninja, a 50 kg rider goes upside-down at the top of a loop. The FF meter is held on the head-to-toe axis. Predict the reading on the meter.
2. Draw a force diagram for the rider.
3. The FF reading above is for a force directed which way?