Study Guide - Chapter 2

Name:_____ Period:____

Section 2.1

1. If we have a model, we can _____ what will happen.
2. The way we answer complicated questions is to _____ them down into _____ questions.
3. An _____ tells us about the relationship between variables.
4. We collect experimental data to figure out the _____ between variables.
5. An electronic timer allows us to make ____ _____ measurements of speed.
6. Engineers often construct _____ _____ of bridges and evaluate them.
7. A scale of 120:1 means every inch on the model represents ____ feet in real life.
8. In 1543, Nicholas Copernicus described a _____ _____ of the heavens in which the Earth revolves in an orbit around the _____.
9. In 1687, Isaac Newton's law of _____ _____ finally provided a model that explains why planets move in orbits.
10. A _____ model uses a graph to show a relationship between variables.
11. On a speed vs. distance graph, speed is the _____ variable.
12. On a speed vs. distance graph, distance is the _____ variable.
13. People have decided to always put the _____ variable on the "x" axis.
14. By making a graph, you are making a _____ that shows the exact relationship between your variables.
15. On the graph on page 27, the speed at 50 cm from the start is _____ cm/sec.
16. In many experiments we are looking for a _____ and _____ relationship.
17. A relationship is inverse when one variable _____ and the other _____.

Section 2.2

18. Graphical models like the _____ vs. _____ graph are good for organizing data.
19. What does the word position mean?
20. What is distance?
21. A _____ vs. _____ graph shows where things are at different times.
22. If you drive 90 miles in 1.5 hours, your speed is _____ mph.
23. What is the definition of slope/
24. The slope is the distance traveled divided by the time taken, which is _____.
25. Does your speed stay the same during a real trip?
26. What is instantaneous speed?
27. If the slope of the graph is steep, this indicates a _____ speed.
28. If the slope of the graph is shallow, this gives a _____ speed.
29. If the graph is level the slope is _____, so the speed is also _____.

Section 2.3

30. The rate at which speed changes is called _____.
31. Acceleration is the rate of change in the _____ of an object.
32. If your speed goes from 20mph to 60 mph in 4 seconds, then your car accelerates at _____ mph per second.
33. Acceleration is the change in _____ divided by the change in _____.
34. If speed is in cm/sec and time is in seconds, then the units for acceleration are _____.
35. Many physics problems will use acceleration in _____.
36. When slowing down, acceleration is in the _____ direction.
37. An object has _____ acceleration if it is traveling at constant speed.
38. Any time you change either speed or direction, you are _____.
39. The steeper the hill, the faster you accelerate. This effect has to do with _____.
40. The speed of a free falling object increases by _____ m/s every second.
41. Draw the speed vs. time graph showing positive acceleration.
42. If the graph slopes down, it means the speed is _____.
43. The slope on a speed vs. time graph is the _____.