## FREE FALL GRAPHING

The picture on the right shows a person dropping a ball off of a cliff. The data table below describes what happens to the position and the speed of the ball for the first 5 seconds. On the back, graph the position vs. time and speed vs. time for the data below. Analyze the graphs and answer the questions below.

Time (seconds)	Position (meters)	Speed (meters/second)
0	0	0
1	5	9.8
2	20	19.6
3	45	29.4
4	80	39.2
5	125	49
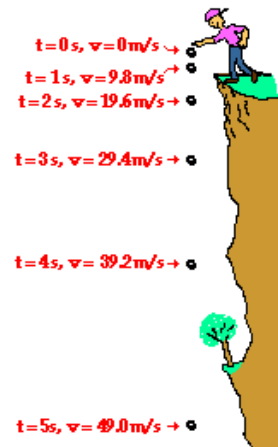
1. Describe, in your own words, what the object is doing as it is falling. (you cannot use the word acceleration)

2. How much is the speed changing each second? Is it a constant value or a changing value?

3. What does the <u>shape</u> of the position graph tell you about the object.

4. What does the <u>shape</u> of the speed of the graph tell you about the speed of the object.

5. Is the object accelerating? How do you know?

6. Calculate the acceleration of the object. (Find the slope of the speed graph)