1. In this applet, 'displacement' refers to that from the starting position.

2. Arrows drawn in green, red and blue represent displacement, velocity and acceleration respectively.

3. The forward (upward) direction is taken to be positive.

**4. When the option 'Edit v-t graph' is chosen, the v-t graph is capable to be changed by dragging the red points on the graph upward or downward.**

5. The slope of displacement-time graph is velocity; the slope of velocity-time graph is acceleration. Uniform acceleration is the case when the acceleration is a constant, i.e. the velocity changes at a constant rate.

6. A straight v-t graph means the acceleration is uniform. However, if the graph is composed of several straight lines of different slopes, the overall motion is no more described as uniformly accelerated.

7. Negative acceleration is usually called "deceleration". In fact, we need both the directions of velocity and acceleration to determine whether the object is speeding up or slowing down. The following table summarizes the cases

|  |  |  |
| --- | --- | --- |
| **Velocity** | **Acceleration** | **Status** |
| Positive | Positive | Real acceleration (speeding up)  |
| Positive | Negative | Real deceleration (slowing down) |
| Negative | Positive | Real deceleration (slowing down) |
| Negative | Negative | Real acceleration (speeding up)  |

Example: 