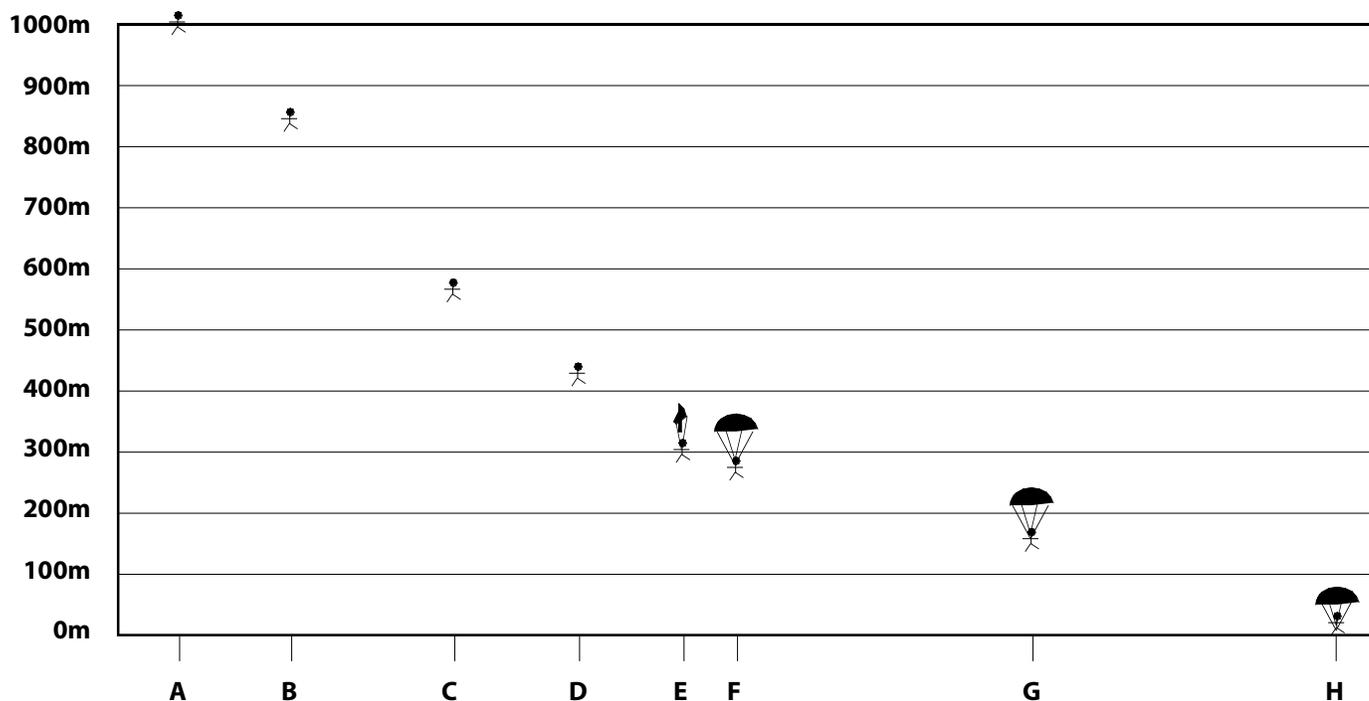


PhyzJob: Sky Diver Physics



A sky diver is shown below in multiple diagrams indicating his/her position at different times throughout his/her journey from a stationary balloon (not shown) to the ground.



The motion at each point *in time* is described below.

- The sky diver has just stepped out of the balloon and begins to fall.
- The sky diver is falling with increasing speed. As the sky diver's speed increases, however, his/her acceleration decreases. Why is this?
- The sky diver reaches terminal speed.
- The sky diver continues to fall at terminal speed.
- The sky diver pulls his/her ripcord to release the parachute.
- The parachute takes full effect, slowing the sky diver down to a much lower speed: this is the new terminal speed for the sky diver with deployed parachute. Notice the effect of the parachute is to slow the diver; it does not magically lift the diver up to higher elevations. The sky diver travels in only one vertical direction during the entire trip: down.
- The sky diver (now a parachutist) enjoys the leisurely glide down to the ground, traveling at the new (low) terminal speed.
- The parachutist lands. At this point, his/her feet are making initial contact with the ground.

INSTRUCTIONS: Using the information provided, make graphs on the pre-formatted axes on the back.

- Show how the velocity of the sky diver varies with time.
- Show how the drag force varies with time.
- Show how the weight force varies with time.
- Show how the net force varies with time.
- Show how acceleration varies with time.

NOTE: Initial values have been plotted for you. And remember that + is up, - is down.

