

Car Motion Instructions

The car motion data is available at cainephysics.com/ib-1.php .

- Create a difference table template to have a spreadsheet do the calculations of velocity, acceleration and the appropriate times for these quantities. Include a cell in each column to show the equation used for calculations. There is a sample difference table on the website.
- Use your difference table for six of the cars. Explain why you chose these cars over the other cars.
- Choose one car to make the position vs time, velocity vs time and acceleration vs time graphs. Explain why you chose this car over the others. Use the data to arrive at a trend for each graph.
- How does a single mistake in the timing of a car impact the rest of the calculations?
- Write a description of the motion of the car. Comment on how well the graphs agree.