


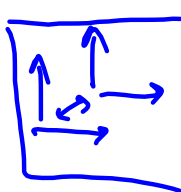


## How to make velocity graphs from a video

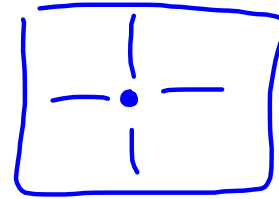
1. Record a video of your cart colliding with another cart
2. Get the video to you CSD Google Drive
3. Open "Logger Pro" → Insert menu, choose "Movie"

4. Click on little red dots 
5. Set the scale: click on horizontal ruler and drag for   
one meter
6. Fast forward the video with   
until the action starts
7. Set the origin: make "0,0" the location of the cart on the left 

8. Add points for the left cart:

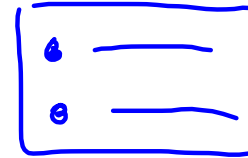
- Click on the location of the cart (click on the same part each time)

- Click up to 3 past the collision



9. Add a new set of points:

- add new point series



10. Repeat step 8 for the cart on the right

11. Click on the graph behind the movie

12. Find the velocity of each cart by finding the slope of the graph

- Click on "M" to write down manually
- or - · Click on "R" to have computer leave on the screen — select "x" and "x2" (select before the collision first)  
slope is  $v_1$  &  $v_2$
- Repeat for after the collision to find  $v_1'$  and  $v_2'$