

FREE FALL LABORATORY EXPERIMENT WITH YOUR SMARTPHONE

Protocol :

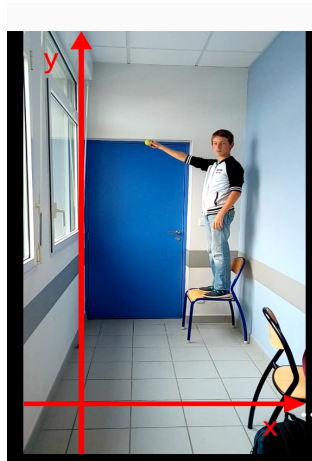
Step 1: Record a video of a free fall with VidAnalysis Free.



Step 2: Choose two points and set the length.



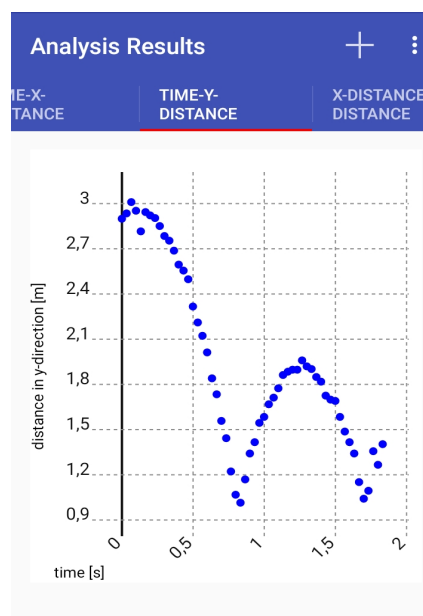
Step 3: Choose an appropriate origin for our coordinate system by tapping the video.



Step 4: Start analysing by tapping the object we want to track in every frame.

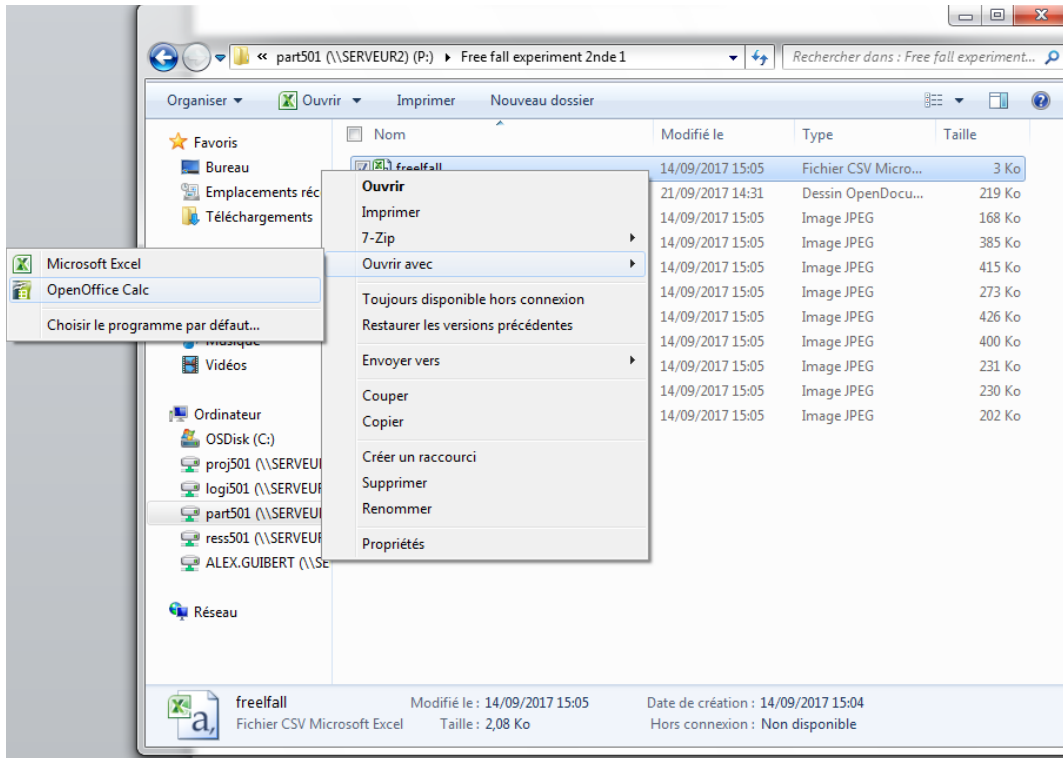


Step 5: Look the results of the free fall

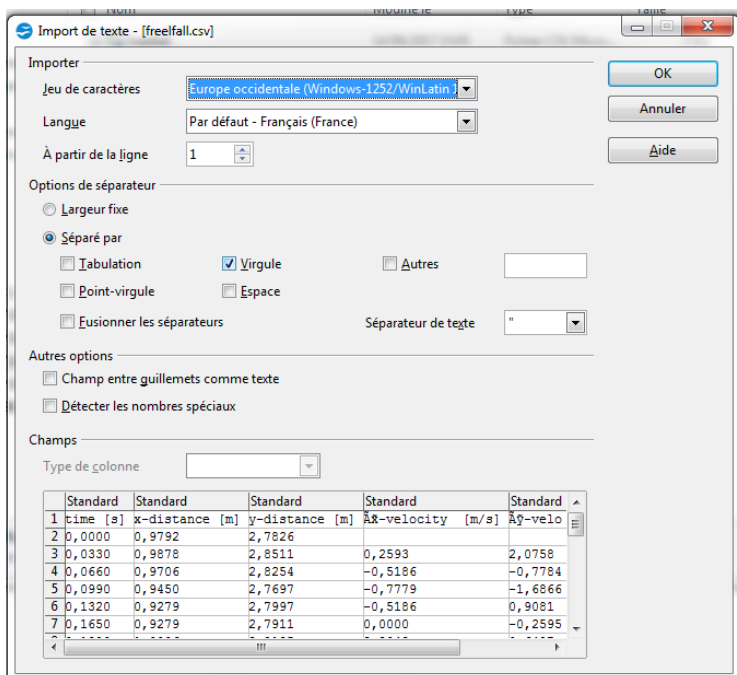


How to open the diagram?

Step 1: Open the file «FreeFall» Open Office Calc



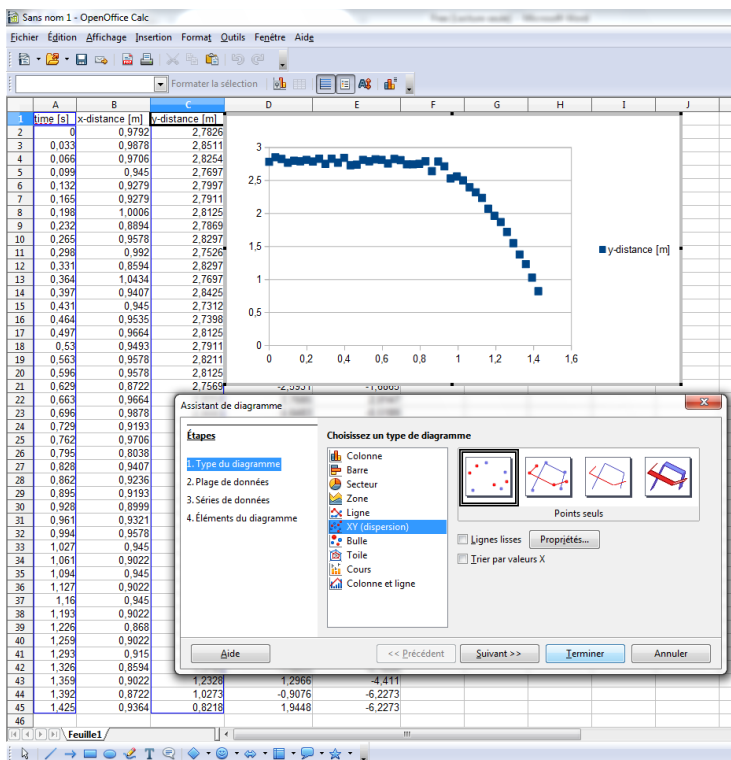
Step 2: Select ONLY the «virgule» and press OK



Step 3: Select the A and the C with Ctrl and open diagram

	A	B	C	D	E	F	G	H	I	J	K
1	time [s]	x-distance [m]	y-distance [m]	Ax-velocity [m/s]	Ay-velocity [m/s]						
2	0	0.9792	2.7826								
3	0.033	0.9878	2.8511	0.2593	2.0758						
4	0.066	0.9706	2.8254	-0.5186	-0.7784						
5	0.099	0.945	2.7697	-0.7779	-1.6866						
6	0.132	0.9279	2.7997	-0.5186	0.9081						
7	0.165	0.9279	2.7911	0	-0.2595						
8	0.198	1.0006	2.8125	2.2042	0.6487						
9	0.232	0.8894	2.7869	-3.2719	-0.7555						
10	0.265	0.9578	2.8297	2.0745	1.2973						
11	0.298	0.992	2.7526	1.0372	-2.3352						
12	0.331	0.8594	2.8297	-4.0193	2.3352						
13	0.364	1.0434	2.7697	5.5752	-1.8163						
14	0.397	0.9407	2.8425	-3.1117	2.2055						
15	0.431	0.945	2.7312	0.1258	-3.2739						
16	0.464	0.9535	2.7398	0.2593	0.2595						
17	0.497	0.9664	2.8125	0.389	2.2055						
18	0.53	0.9493	2.7911	-0.5186	-0.6487						
19	0.563	0.9578	2.8211	0.2593	0.9081						
20	0.596	0.9578	2.8125	0	-0.2595						
21	0.629	0.8722	2.7569	-2.5931	-1.6865						
22	0.663	0.9664	2.8254	2.7685	2.0147						
23	0.696	0.9878	2.8083	0.6483	-0.5189						
24	0.729	0.9193	2.744	-2.0745	-1.946						
25	0.762	0.9706	2.744	1.5559	0						
26	0.795	0.8038	2.7526	-5.0566	0.2595						
27	0.828	0.9407	2.7911	4.149	1.1676						
28	0.862	0.9236	2.6413	-0.5034	-4.4072						
29	0.895	0.9193	2.7869	-0.1297	4.411						
30	0.928	0.8999	2.7141	-0.5868	-2.2055						
31	0.961	0.9321	2.53	0.9757	-5.5786						
32	0.994	0.9578	2.56	0.7779	0.9081						
33	1.027	0.945	2.5	-0.389	-1.8163						
34	1.061	0.9022	2.3973	-1.2584	-3.0221						
35	1.094	0.945	2.3202	1.2966	-2.3352						
36	1.127	0.9022	2.2346	-1.2966	-2.5947						
37	1.16	0.945	2.0719	1.2966	-4.9299						
38	1.193	0.9022	1.9649	-1.2966	-3.2434						
39	1.226	0.868	1.8707	-1.0372	-2.8542						
40	1.259	0.9022	1.7208	1.0372	-4.5407						
41	1.293	0.915	1.5496	0.3775	-5.0368						
42	1.326	0.8594	1.3783	-1.6855	-5.1894						
43	1.359	0.9022	1.2328	1.2966	-4.411						
44	1.392	0.8722	1.0273	-0.9076	-6.2273						
45	1.425	0.9364	0.8218	1.9448	-6.2273						
46											

Step 4: Select XY and press «Terminer»



Step 5: The diagram is open!

