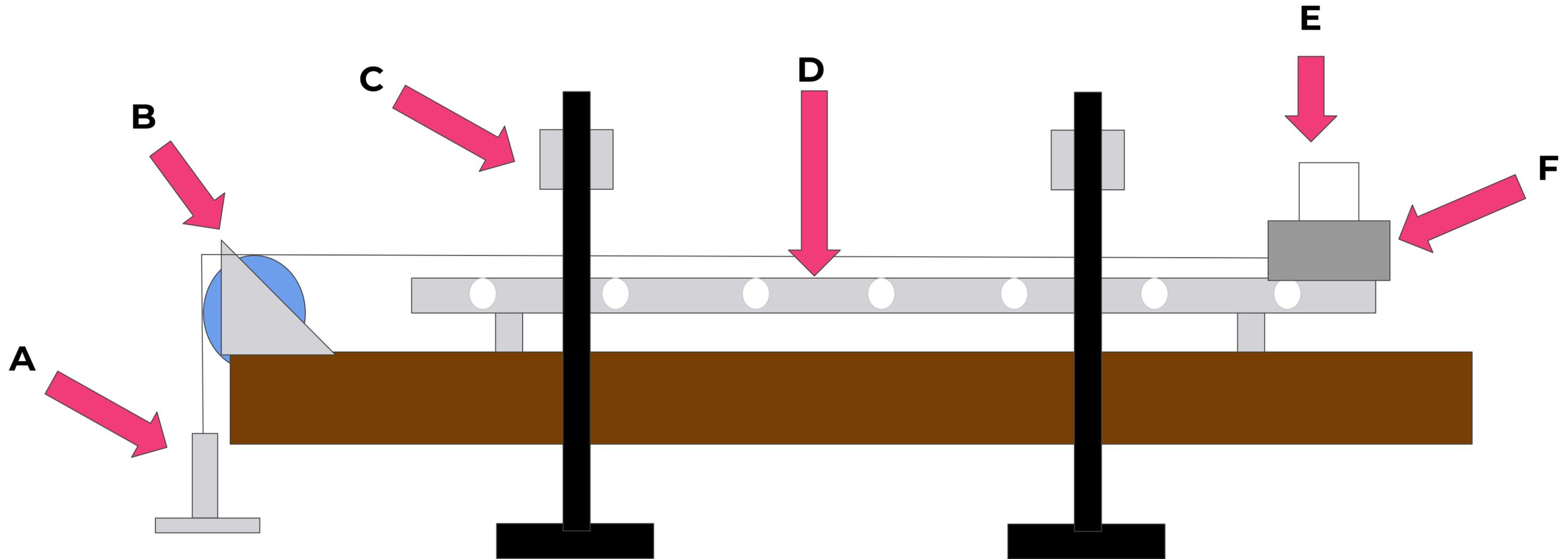# Acceleration RPA 2

Mr Saville

OAK NATIONAL ACADEMY

Warm Up Task

Can you identify the equipment used from the first acceleration required practical.

Independent Practice

1. What is your hypothesis for the practical?

   As the ……………………….. is increased, the ………………………. will …………………………….

2. What is the independent variable for this practical?

3. What is the dependent variable for this practical?

4. What are the control variables for this practical?

Independent Task

Complete the table below, giving the reasons for each of these steps in our method .

Method	Reason
Set up the air track and vacuum cleaner on 'blow'	
Measure the distance of the card and input into lightgate software	
Calculate acceleration with 1 N of force added to the weight stack, repeat 3 times.	
Remove 0.2 N from weight stack and place on glider, and repeat practical	
Repeat above step 3 more times, removing 0.2 N each time	

Results - Independent Practice

What are the 4 errors in the below table? Write down each error, and a description of how to correct the error.

Force applied (kg)	Acceleration 1 (m/s²)	Acceleration 2 (m/s²)	Acceleration 3 (m/s²)	Mean Acceleration
1.0	0.54	0.58	0.66	0.593
0.8	0.40	0.58	0.44	0.47
0.6	1.40	0.38	0.34	0.71
0.4	0.29	0.20	0.24	0.24
0.2	0.10	0.12	0.15	0.12

Analysis - Independent Practice

1) Draw out an appropriate scale
2) Label each axis correctly
3) Plot the results
4) Draw a line of best fit
5) State what the results show - is there any relationship between the 2 variables?
6) Does this prove the hypothesis?

Force applied (N)	Mean Acceleration (m/s²)
1.0	0.59
0.8	0.47
0.6	0.36
0.4	0.24
0.2	0.12