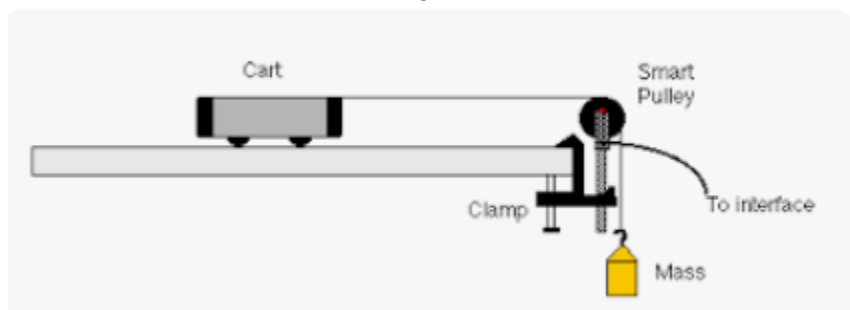


Question 1

Goal - Your goal is to design an experiment to calculate the acceleration of the cart as it moves on the track as shown in the diagram.



Role - You have been asked to use the concepts of Newton's second law $F = m \times a$ to calculate the acceleration

Audience - You need to convince the teacher with your logical and scientific approach of designing and investigating.

Situation - The challenge will be in weighing the mass of the cart and mass attached to the string with significant figures using appropriate weighing equipment.

Performance - You need to correctly

Frame the research question

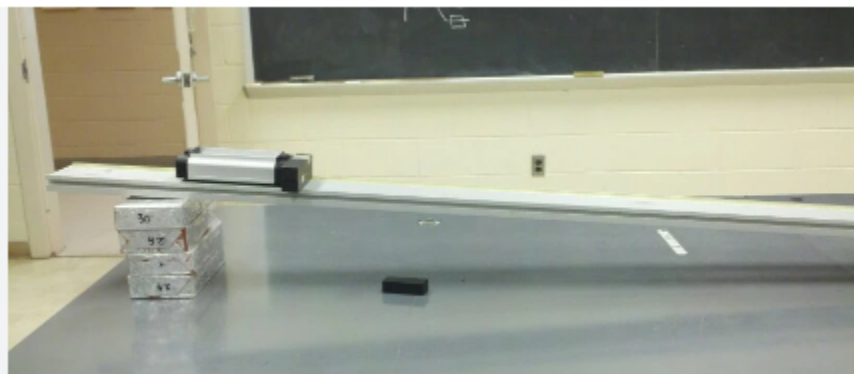
Identify the variables and explain how you will manipulate them.

Write the investigation to calculate the acceleration

Success - Your work will be judged by MYP 5 criteria B strands.

Question 2

Goal - Your task is to find out the speed of the card down the ramp as shown in the diagram



Role - You are a student using the concepts of speed = distance/ time

Audience - You need to convince the teacher with your logical and scientific approach of designing and investigating.

Situation - You have to design the experiment that can be performed in school lab with basic school equipments

Performance - You will have to frame your research, identify and explain how you will manipulate the variables, design a logical and scientific methodology for calculating the speed.

MYP - Motion - Criteria B practice

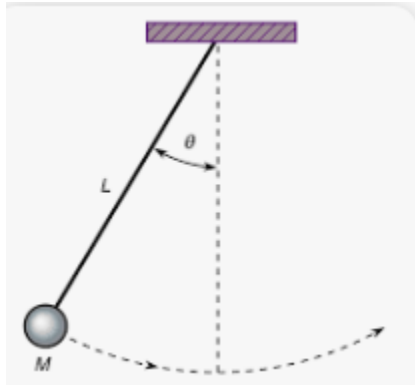
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Your challenge will be in specifying a method to measure time and distance as accurate as possible with expected experimental errors.

Standards - You will be assessed based on the strands of criteria B

Question 3



Goal - Your task is to investigate the relation between time period and length of the string of a simple oscillating pendulum

Role - You are a physics lab assistance explaining the procedure to the students

Audience - Your audience is MYP 4 students

Situation - You have to first explain to them 'time period' and its unit as background information.

Performance - You will have to make a lab report which includes framing of the research question, identifying and manipulating the variables, suggesting the hypothesis and design procedure.

Standard - Your report should cater to all the four strands MYP 5 criteria B

Question 4

Goal - Your task is to design a set up to track speed of cars on highway



Role - You are an engineer with a knowledge with a high ended speed sensor devices

Audience - Your target audience is the authority to road transport.

Situation - The road is prone to accidents at night and a properly designed module to track the speed of cars is considered as a first initiative to reduce the frequency of accidents at night.

Performance - You will have to show them the design and visuals of a digital working model. You have to keep in mind that you have to use speed detectors / sensors specifying their names and brands.

Standard - Your digital model should be practical and should have less scope of giving false readings.

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