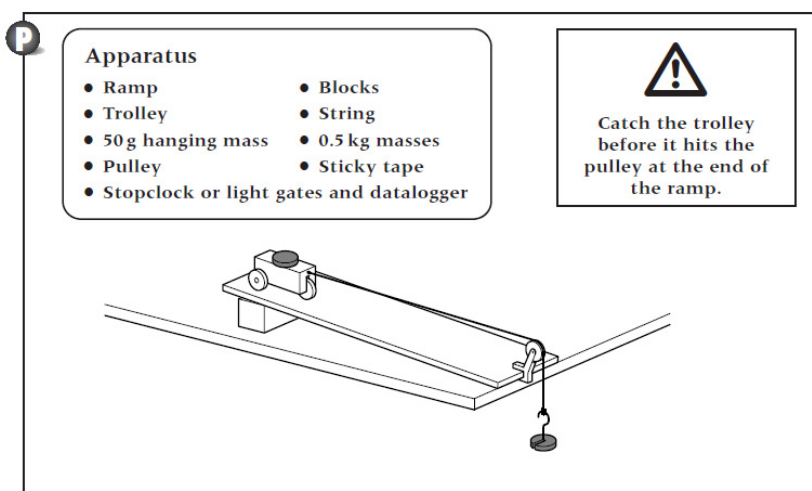


# Acceleration – Inquiry activity

Hypothesis: The greater the mass the lower the acceleration



## Task

### Designing your experiment

Describe how you are going to carry out your investigation. You will need to think about the following things:

- How will you compensate for the effects of friction on the trolley?
- How will you apply a force to the trolley?
- How will you make sure your test is fair?

If you are going to change the force by adding masses to the end of a string, remember that those masses are accelerating as well as the trolley, so you need to keep the **total** mass of the trolley **and** masses the same.

- How will you measure the acceleration of the trolley?  
(Hint: You may need to measure the speed at more than one place.)
- How many times will you need to take each measurement?
- Do you need to do any preliminary experiments?

Show your plan to your teacher before you carry out your investigation.

### Considering your results

- ① Write a conclusion for your experiment. Have you found a relationship between mass and acceleration, or between force and acceleration?
- ② How accurate and reliable are your results? Explain your answer.
- ③ If you had time to do your experiment again, how could you improve it?