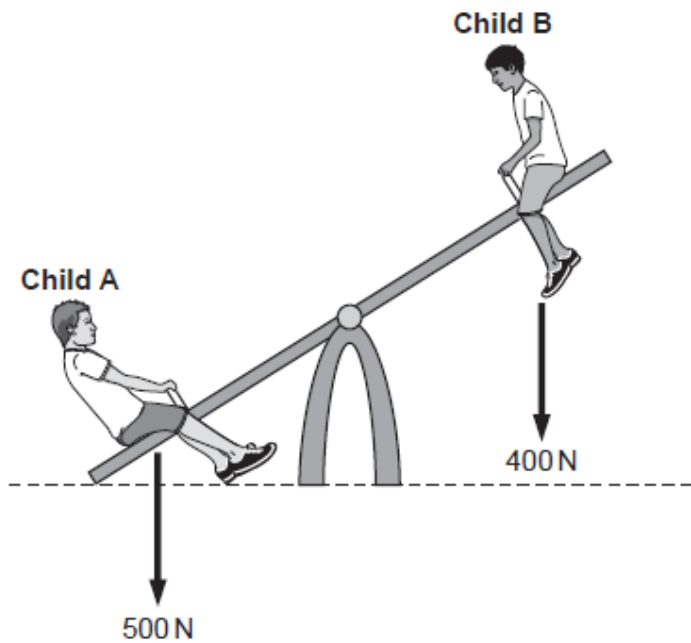


GCSE Physics A (Gateway)

J249/01 Physics A P1-P4 and P9 (Foundation Tier)

Question Set 6

- 1 (a) Two children play on a seesaw.



Both children sit **2 m** from the pivot

- (i) Calculate the clockwise and anti-clockwise moments around the pivot when the seesaw is horizontal.

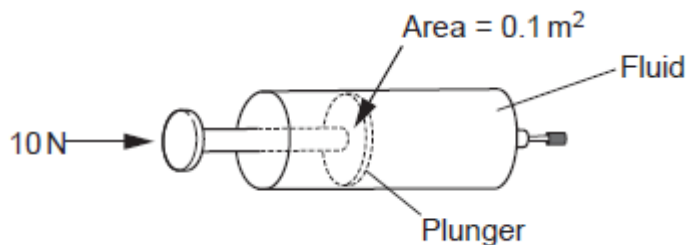
Clockwise moment = $400 \times 2 = 800$ N m

Anti-clockwise moment = $500 \times 2 = 1000$ N m [3]

- (ii) Calculate where **Child A** should sit to balance the seesaw.

$\frac{800}{500} = \frac{8}{5} = 1.6$ Answer = 1.6 m [3]

- (b) A student tries to compress the fluid in a sealed syringe with a force of 10 N.



The area of the end of the syringe is 0.1 m^2 .

- (i) Calculate the pressure in the fluid..

$$P_{\text{pressure}} = \frac{F}{A} = \frac{10}{0.1} = 100$$

Answer = Pa

[3]

- (ii) Write down the direction of the force produced by the fluid on the plunger.

Perpendicular to the plunger

[1]

Total Marks for Question Set 6: 10

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