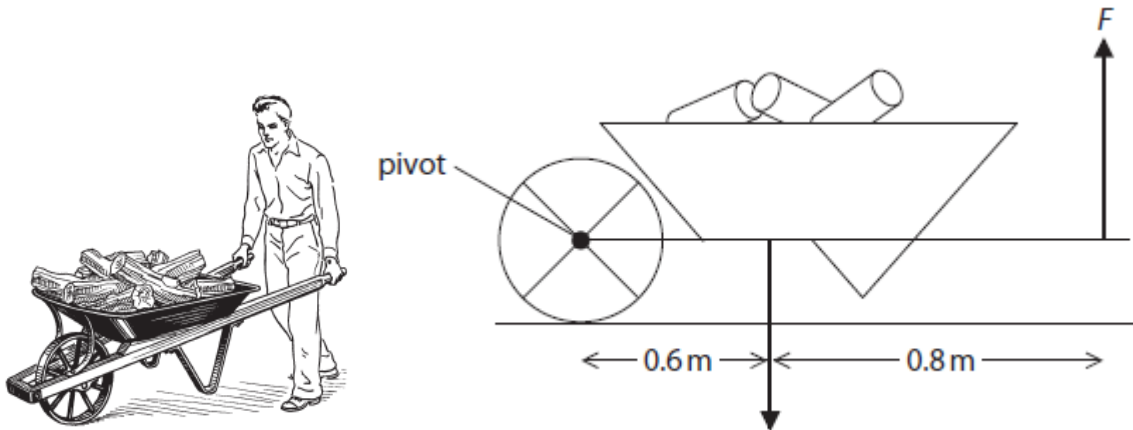


Class VII Physics

Week 3

Turning Forces

1. A person uses a wheelbarrow to carry some logs. He holds the wheelbarrow in the position given on the right.



The man exerts a total upward force of 'F' N as shown above.

The weight of the loaded wheelbarrow is 470 N.

- a. Mark the centre of mass of the wheelbarrow on the right picture.
- b. State the Principle of Moments

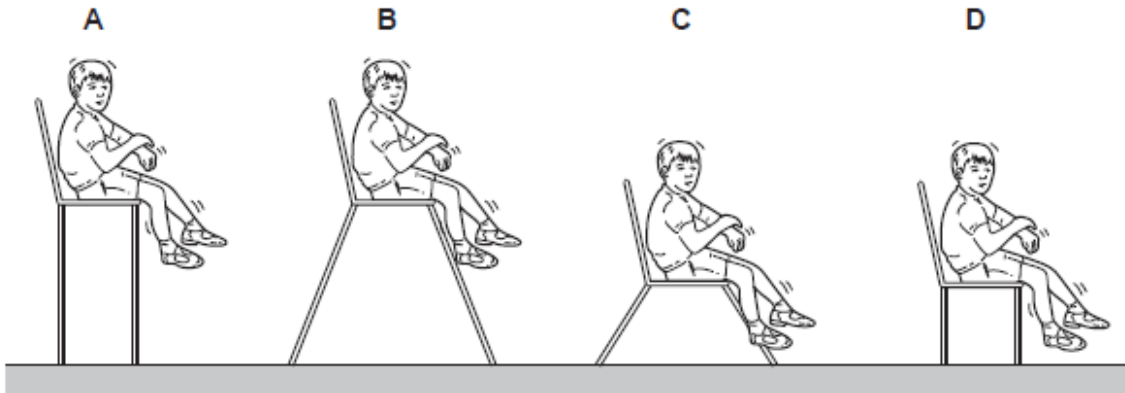
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- c. Calculate the force 'F' the person needs to hold the wheelbarrow.

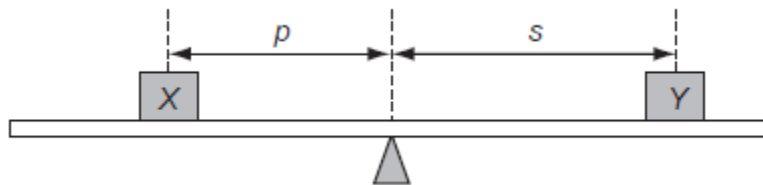
- d. It is easier to hold the wheelbarrow if the force 'F' you calculated above is reduced. Suggest 1 way how a smaller force 'F' could be used other than reducing the weight of the wheelbarrow. Hint: handlebars.

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2. Which chair is the least stable if the child moves?



3. Masses X and Y are placed on opposite sides of the centre of a uniform metre rule, which is pivoted at its centre.



Which combination of masses and distances balances the rule?

	mass/g		distance /cm	
	X	Y	p	s
A	200	200	5	10
B	200	300	10	15
C	400	300	12	16
D	500	200	15	30

Learning links:

Moments: <https://www.youtube.com/watch?v=22VGQM1jCn8>

Centre of mass: https://youtu.be/pjK_3RuiCXk