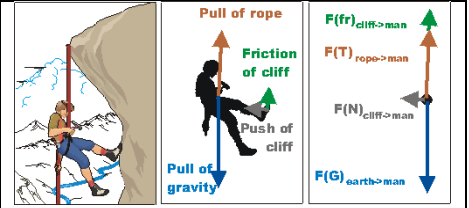


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## Finding $\mu$ the coefficient of friction [ $u$ ]



### Data Table

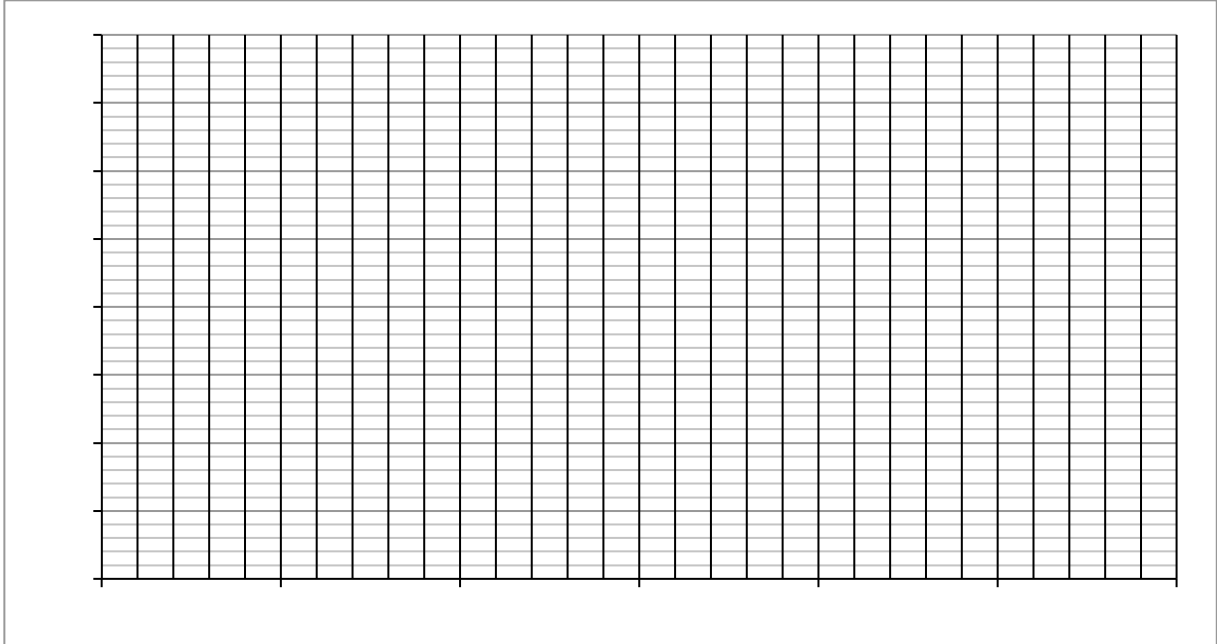
Mass of box \_\_\_\_\_ kg

Mass in box (g)	Mass in box (kg)	Total mass (kg)	Normal force (N)	Applied force (N)	Force of friction (N)	$u$
200						
500						
700						
1000						
1200						
1500						

**Calculations:** Below, show the calculations for normal force and  $u$  for the 200 gram mass.

Construct a Friction vs Normal Force Graph.

### Friction vs Normal Force



What does the slope of a friction vs normal force graph represent?	What is the slope of the trendline?	What is the equation for the trendline?
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### Questions

1) As the total mass increases, what happens to the force of friction?

2) Does your coefficient of friction value remain constant as expected? If not, how does it change?

3) Which force is the equal to the applied force. Explain why this is true.

4) Which force is the equal to the normal force. Explain why this is true.

Conclusion: