№22 Flight of cylinder

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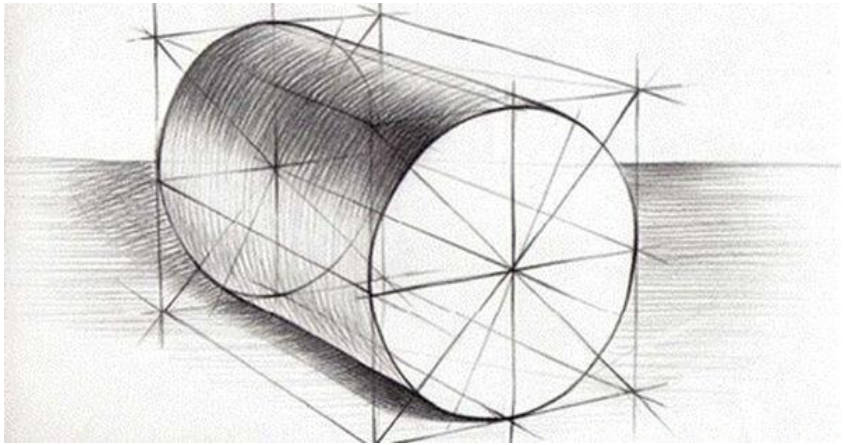
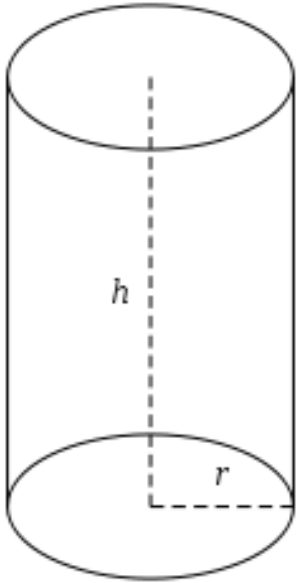
A hollow paper cylinder rolls down on an inclined desk. Investigate the motion of the cylinder after it reaches the edge of the desk and starts the free fall.

Our goal is to investigate the moving of cylinder rolls down on a inclined desk .And investigate what happens during the experiment



Hypothesis -the cylinder will start to shake and turn a little until it loses contact with the table.



We thought that it depends on the angle and mass

Parameters that fail to affect the fail of the cylinder

- **Applied force**
- **Acceleration**
- **The force of ration**
- **Angular velocity**

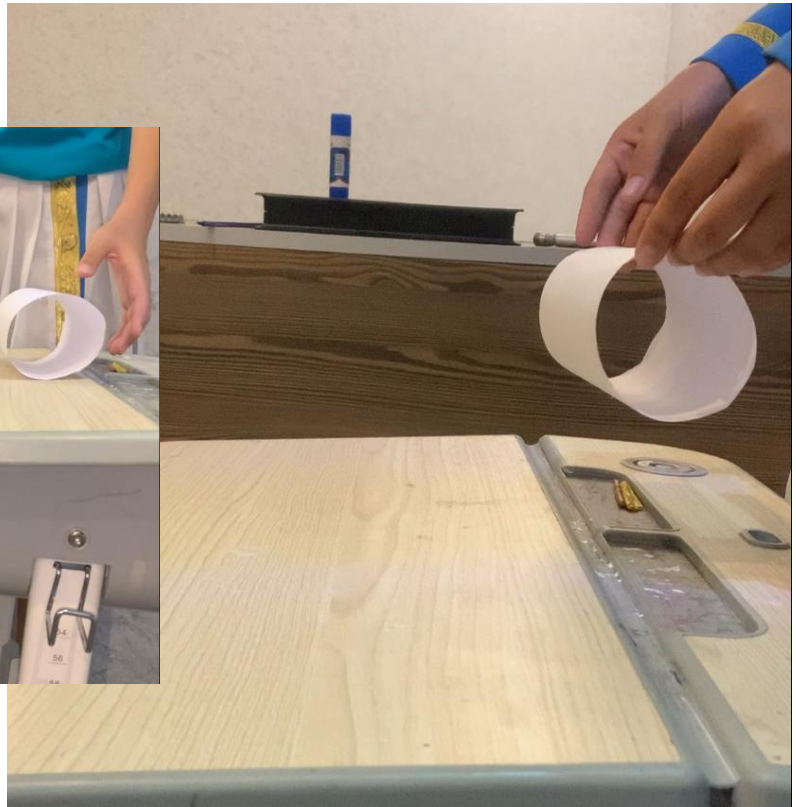
Processes that occur while the cylinder is falling

Free fall

The cylinder will continue to move in the y direction as it falls under gravity

The spinning is continuing- from the principle of conservation of energy, assuming the absence of non-conservative forces

our experiment



Calculations

The axis x = 60 cm, the axis y= 120 cm,
radius=3,75
high-19 cm

The angle 65 degree-speed 0,165
The angle 35 degree = speed 0,35

mass of closed cylinder=5,4g
mass of open cylinder = 5 g

Conclusion

- We studied everything that happens while the cylinder rolls on the board, and found out that this problem is affected by the angle of inclination of the surface, the size of the cylinder, the acceleration rate, and also rotation occurs and due to the conservation of kinetic energy, rotational energy is stored and it moves back to the side y.


Thanks for your
attention !