ROQED PHYSICS LAB

Determination of the work performed with uniform lifting of bodies

Purpose of the work: to
learn experimentally, to determine the work performed with uniform lifting of the body.
Devices and materials:
092 - Board 100 cm
018 - Dynamometer,
066 - wooden block,
000 - tripod
001 - clutch with foot.

Theoretical part:
Lifting a load along an inclined plane, we will see that if the friction is low, for this you need to apply less force than when lifting the load vertically. However, the path becomes longer.
In this work, you must make sure that when lifting a load along an inclined plane to a height h, you must apply a force F, which is as much less than the weight of the load P, how many times the height of the inclined plane h is less than its length l
Therefore, when using on an inclined plane, we win in strength as many times as we lose along the way.

Work progress

1. According to the picture on the board with,select the workplace for the experiment.

2. Start the simulation.

3. Using a dynamometer, measure the weight of the load and enter the result in the Table.

4. Measure the length L and the height h of the ramp. Enter the results in the Table.

5. Place the block attached to the dynamometer on the bottom of the board and move it evenly up the inclined plane. Measure the pulling force F and record the result in the Table.

6. Repeat the experiment several times, changing the height of the inclined plane (h).

7. Calculate the ratio of $\frac{P}{F}$ and $\frac{L}{h}$.

8. Enter the results of measurements and calculations in the TableExperiment**:**

number	P (H)	h (m)	*L* (m)	F (H)	P / F	L / h
1.	...	...	...	...		
2.		...		...		
3.		...		...		

Conclusion:

A. Confirmed “golden rule of mechanics ”. When using an inclined plane, we win in strength as many times as we lose in distance.

IN. The "golden rule of mechanics" was confirmed. When using an inclined plane, we lose in strength as many times as we lose in distance.

FROM. The "golden rule of mechanics" was confirmed. When using an inclined plane, we always get a gain in work.