Newton Meter NaRiKa GN-1

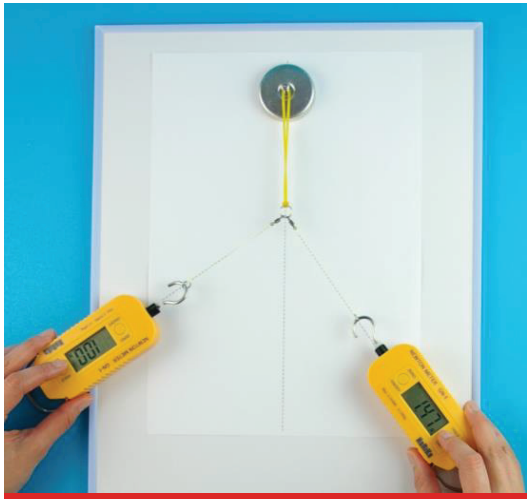
ME4150

Hold function

Measuring force is so quick and precise with the new digital display meter instead of traditional spring balance scales!

- **Digital display meter**
  - Two modes: Newton (N) / Weight (g)
  - Measurement range: ± 19.99N / ± 1,999g
  - Resolution: 0.01N / 1g
- **Zero point adjustment function**
- **Hold function** to obtain measured value at each moment
- Measuring both forces used in **Pulling** and **Pushing**

Remove the hook to measure pushing force



Use multiple meters for the experiment of addition and resolution of force with hold function as ease

Measuring 9.4N or 500g for a 500g weight

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Addition and Resolution of Forces

Resolving Forces in Components using Newton Meter

Experiment 4a Addition of forces

1 Set up the apparatus as shown (Fig a). The rubber band is fixed to point *X*.

2 Pull the rubber band to the centre of the protractor *O* using the spring balances. Record the readings of the spring balances. Also record the angles *a* and *b*.

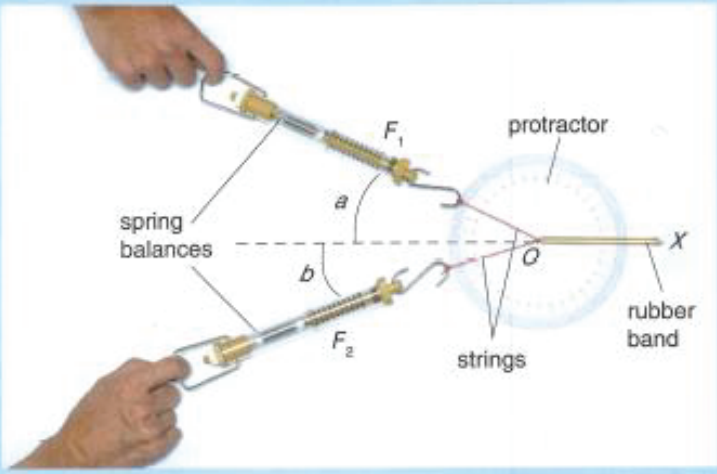


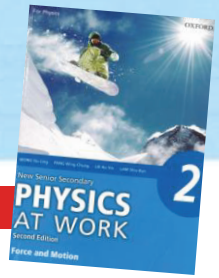
Fig a

3 Find the resultant of F_1 and F_2 using algebraic or graphical method.

4 Repeat by pulling the rubber band to *O* using different forces at different angles.

Discussion

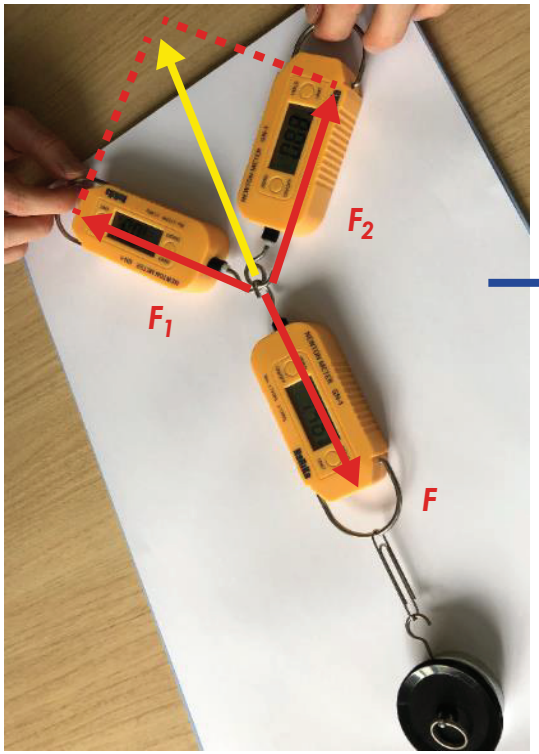
Is the resultant of F_1 and F_2 the same in every trial?

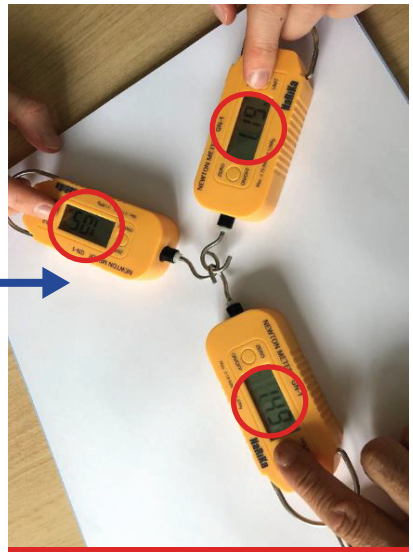


Science textbook

Experiments in textbook are easy to conduct by students' group instead of using traditional spring balance scales!

- **Measured value shown on digital display up to 20N**
  - Covering the measurement range for four to five types of spring balances in one product
  - Measurement range: ± 19.99N / ± 1,999g
  - Resolution: 0.01N / 1g
- **Hold function for measured value**
  - Reading measured values more promptly and precisely in comparison with traditional spring balance





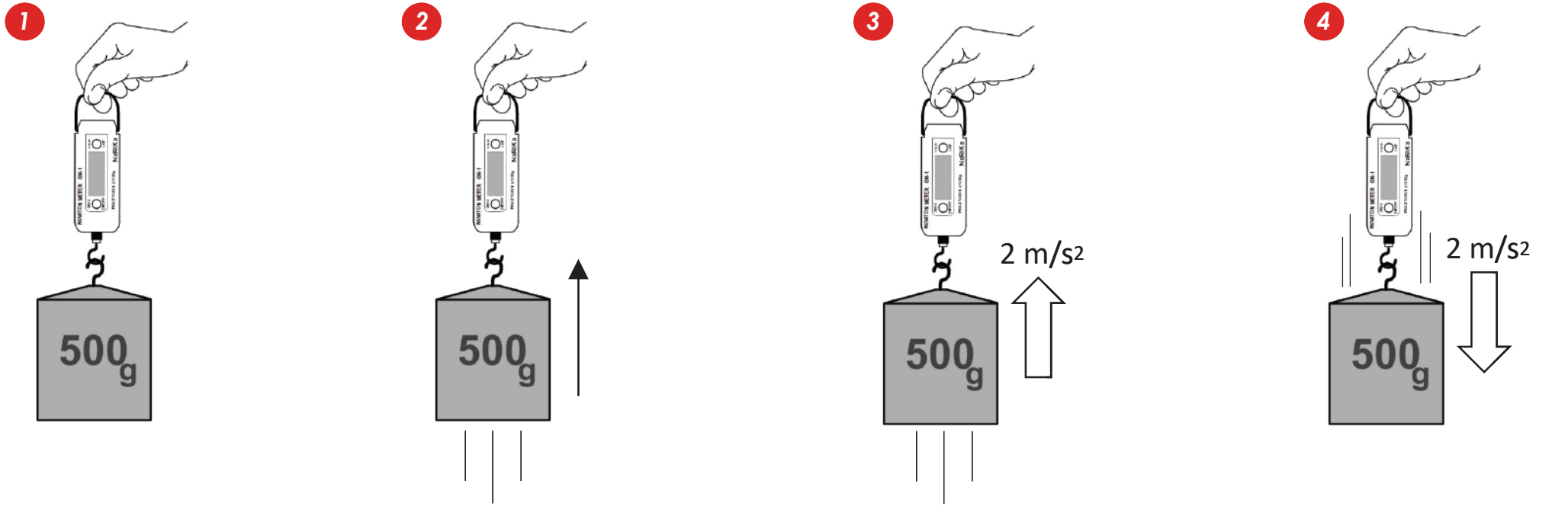
*Read each value using **Hold Function***

Solve a Question with Newton Meter

Newton Meter NaRiKa GN-1 (ME4150)

Experiments in textbook are easy to conduct by students' group instead of using traditional spring balance scales!

1. Move a mass of 500g (0.5kg) as shown below (1 to 4).
2. Compare (calculate) the applied **force** to hang the mass on the basis that "Gravitational Acceleration (g) = 10m/s^2".



Rest state (No movement)

Lifting the mass at a constant speed

Lifting the mass at a constant acceleration

Lower the mass at a constant acceleration

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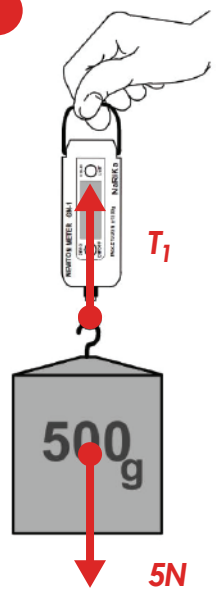
Solve a Question with Newton Meter

Newton Meter NaRiKa GN-1 (ME4150)

Answer:

4 < 1 = 2 < 3

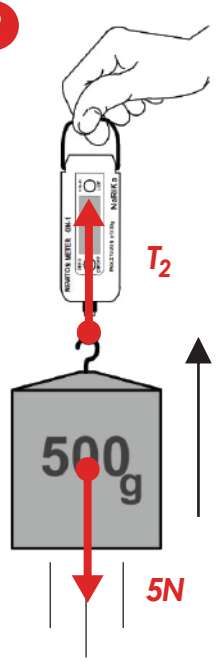
1



Rest state
(No movement)

ma
= 0.5kg x 10m/s²
= T_1 = T_2
= 5N

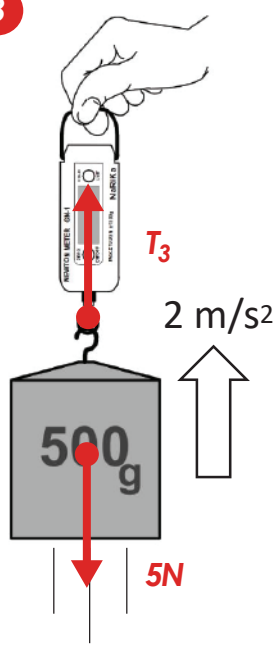
2



Lifting the mass
at a constant speed

ma
= 0.5kg x 10m/s²
= T_1 = T_2
= 5N

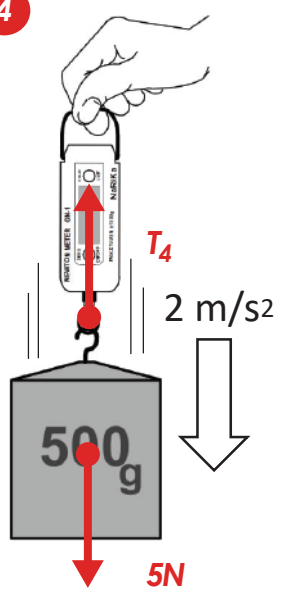
3



Lifting the mass
at a constant acceleration

ma
= 0.5kg x 2m/s²
= 1N
= T_1 - 5N
[T_3 = 6N]

4



Lower the mass
at a constant acceleration

ma
= 0.5kg x 2m/s²
= 1N
= 5N - T_4
[T_4 = 6N]