

Scanner (#884)

#2 pencil

Scientific calculator

Optional Materials: A small index card.

Vocabulary

| | | | | |
|-----------------------------------|-------------------|---|------------------------------|--------------|
| Speed | distance | displacement | instantaneous velocity/speed | |
| Average velocity/speed | | constant velocity | constant acceleration | |
| Free fall | mass | weight | Newton's first Law | |
| Newton's second law | | Newton's Third Law | net force | |
| Terminal speed | | action | reaction | Normal force |
| Tension | Friction | air resistance | inverse square law | scalar |
| Vector | vector components | fundamental forces | projectile motion | range |
| Kepler's Laws of Planetary Motion | | Energy conservations and satellite motion | | Inertia |

Calculations

1. Displacement and distance.
2. Average velocity and average speed.
3. Speed of a free fall object when it hits the ground.
4. Using Newton's second law to calculate net force and acceleration.
5. Compare gravitational forces

Important Concepts

6. Inertia.
7. Scalars and vectors
8. Free body Diagram
9. Newton's Laws of motion.
10. Universal gravitational force.
11. Terminal speed.
12. Energy conservations in satellite motion

Skills

13. Draw free body diagram.
14. Draw the trajectory of a projectile using initial vertical and horizontal velocity components.
15. Compare terminal speed of objects.
16. Classify into scalars and vectors