

1. Answer the following questions.

i. What is force? Write down its SI unit.

Ans: The push or pull on an object which causes it to change its velocity, state of rest or motion is called force. The force can also speed up, slow down, turn and stop the object. It has a magnitude and a direction.

The SI unit of force is Newton (N).

ii. Define speed and write down its formula with SI unit.

Ans: The distance covered in unit time is called speed.

Formula:

$$Speed = \frac{Distance}{Time}$$

The SI unit of speed is meter per second (m/s) or kilometer per hour (km/h).

iii. Define the following terms.

- **Applied Force**
- **Friction**
- **Gravitational Force**
- **Magnetic Force**

Ans: Applied Force

An applied force is a force that is applied to an object by a person or another object.

- **Friction**

Friction is the force that resists motion when the surface of one object comes in contact with the surface of another.

- **Gravitational Force**

Every object in this universe attracts every other object with a force called gravitational force.

- **Magnetic Force**

Magnetic force is the force exerted by magnets when they attract or repel each other.

iv. Differentiate between balanced and unbalanced forces.

Ans:

Balanced Forces	Unbalanced Forces
Balanced forces are those that are opposite in direction and equal in size.	Unbalanced forces means that the force applied in one direction is greater than the force applied in the opposite direction.

v. What do you know about distance-time graphs?

Ans: A distance-time graph is a graphical representation of how far a body has traveled in a specified amount of time. It is used to depict the relationship between distance and time.

- a) Distance is plotted on the Y-axis.
- b) Time is plotted on the X-axis.

2. Tick the right option.

1. SI unit of force is:

- I. Pascal
- II. Watt
- III. Joules
- IV. **Newton**

2. The force that resists the motion of moving object is:

- I. **Friction**
- II. Applied
- III. Balanced
- IV. Non-Contact

3. An object covers equal distance in equal intervals of time is _____ speed:

- I. Average
- II. Variable
- III. **Uniform**
- IV. Instantaneous

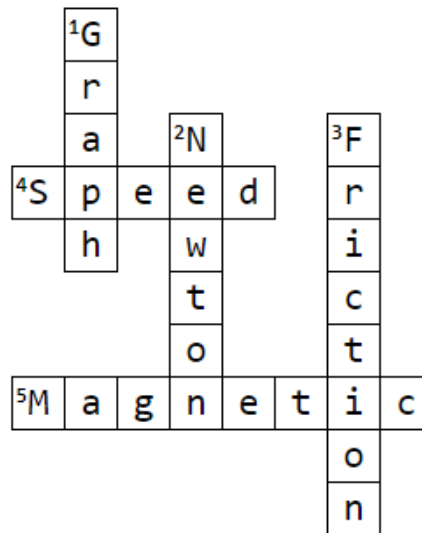
4. Distance is plotted on:

- I. x-axis
- II. **y-axis**
- III. z-axis
- IV. None of these

5. The distance-time graph showing the body at rest will be a _____ line.

- I. **Horizontal**
- II. Straight
- III. Curved
- IV. All of these

3. Crosswords



Across

- 4. Distance in unit time
- 5. Force exerted by magnets

Down

- 1. Pictorial way of expressing quantities
- 2. Unit of Force
- 3. Force resists motion

4. Words Search

Find the following word in the words search.

Force	Magnetic	Balanced	Motion	Speed
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S	F	A	T	S	A	F	S	O	A
M	L	E	C	M	R	I	P	N	L
O	N	P	Y	E	W	D	E	V	H
G	I	T	T	G	E	S	E	R	G
B	A	L	A	N	C	E	D	Q	H
O	M	I	R	E	E	O	A	Z	T
G	V	M	O	T	I	O	N	P	U
E	G	S	L	I	Y	A	W	D	S
G	F	O	R	C	E	B	R	L	Q

5. Jumbled Words

- | | |
|-------------------------------|-----------------------------------|
| i. EPESD <u>SPEED</u> | ii. GRAVITONTA <u>GRAVITATION</u> |
| iii. DANTISCE <u>DISTANCE</u> | iv. UNLANCEDBA <u>UNBALANCED</u> |
| v. EMIT <u>TIME</u> | vi. RCFOE <u>FORCE</u> |
| vii. TONWEN <u>NEWTON</u> | viii. LIEDAPP <u>APPLIED</u> |
| ix. FRICIONT <u>FRICITION</u> | x. ONTMIO <u>MOTION</u> |

6. Columns

Match Column A with Column B.

Column A		Column B
Force	●	●
Balanced force	●	●
Contact force	●	●
Unbalanced force	●	●
Non-contact force	●	●

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7. Fill in the blanks using the given words.

Time	Newton meter	Balanced	Straight	Gravity
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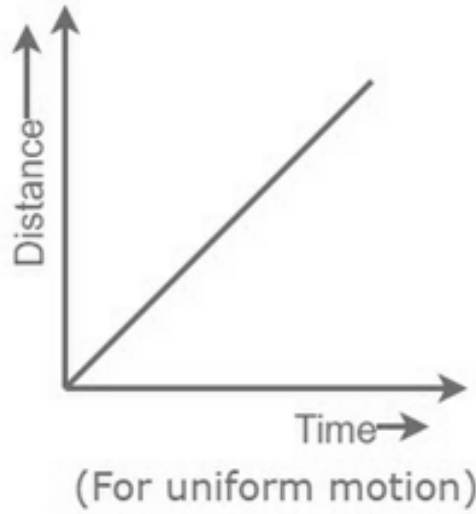
- i. The graph shows a **straight** line for uniform motion.
- ii. The force with which Earth attracts other objects is called **gravity**.
- iii. **Time** is plotted on the X-axis.
- iv. Force can be measured by using **Newton meter**.
- v. **Balanced** forces are opposite in direction and equal in size.

8. Write “T” for the true and “F” for the false statement.

- i. Graph involves picking out data points of interest.
- ii. Meter is unit of force.
- iii. In uniform speed, an object covers different distance in equal time intervals.
- iv. Speed has magnitude only.
- v. Force can stop a moving object.


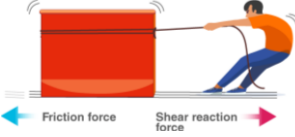
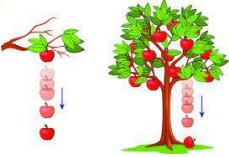

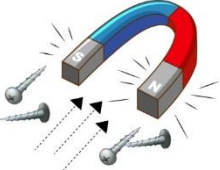
T
F
F
T
T

9. Label distance-time graph.



10. Drag and Drop

Look at the pictures and write the names of force in the relevant column.

				
Applied Force	Friction	Gravitational Force	Electromagnetic Force	Magnetic Force

11. Comprehension

Answer the following questions after reading the paragraph.

The push or pull on an object with mass causes it to change its velocity. Force is an external agent capable of changing a body's state of rest or motion. It has a magnitude and a direction. We can measure force using a newton meter. The newton meter works by stretching a spring. Speed is measured as the ratio of distance to the time in which the distance was covered. Speed is a scalar quantity as it has only direction and no magnitude.

i. What is force?

Ans: The push or pull on an object with mass causes it to change its velocity.

ii. How can we measure force?

Ans: We can measure force using a newton meter. The newton meter works by stretching a spring.

iii. What do you know about speed?

Ans: Speed is measured as the ratio of distance to the time. Speed is a scalar quantity as it has only direction and no magnitude.