# **Forces**

Write Letter Here	How do forces determine an object's motion?
<b>OBJECTIVE 1: You sho</b>	ould be able to predict the motion of an object from its free body diagram.
	+
	3:07

Write
Letter
Here

Letter	How do force	ces determine	an object's	motion?	
Here					
<b>OBJECTIVE 1: Yo</b>	u should be able to p	redict the motio	on of an object f	rom its free bo	dy diagram.
			, in the second		
Motion: describ	es how an object mo	ves (direction, s	peed, accelerat	ion)	
Velocity: speed	; how fast or slow sor	nething is (ex: 1	.00 km/h or 10 r	m/s²)	
Acceleration: cl	hange in velocity; if s	omething is spe	eding up or slo	wing down (m/	′S²)
					Million  Makes  Million the Francisco distribution on milgraff is marked.  SECTION 1. Two should be able to produce the motion of an object from 10 feet being diagram.

06:35

04:01

### How do forces determine an object's motion?

OBJECTIVE 1: You should be able to	predict the motion of an ob	ject from its free body	diagram.
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Motion: describes how an object moves (direction, speed, acceleration)

Velocity: speed; how fast or slow something is (ex: 100 km/h or 10 m/s)

Acceleration: change in velocity; if something is speeding up or slowing down (m/s2)

To predict an object's motion, you must figure out if the forces are balanced, or unbalanced.

Unbalanced forces = acceleration. Balanced Forces = motion does not change.



### How do forces determine an object's motion?

### OBJECTIVE 1: You should be able to predict the motion of an object from its free body diagram.

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#### Bag Sitting On Table





$$F_{norm} = 5N up$$

 $F_g = 5N \text{ down}$ 

When the control is the control of t

Motion: Balanced Forces = no change.

Write Letter Here

# How do forces determine an object's motion?

### OBJECTIVE 1: You should be able to predict the motion of an object from its free body diagram.

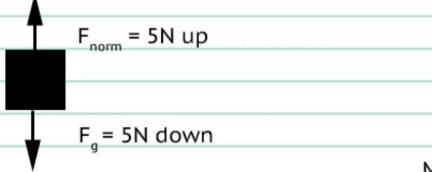
Motion: describes how an object moves (direction, speed, acceleration)

Velocity: speed; how fast or slow something is (ex: 100 km/h or 10 m/s)

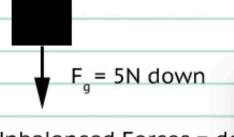
Acceleration: change in velocity; if something is speeding up or slowing down (m/s2)

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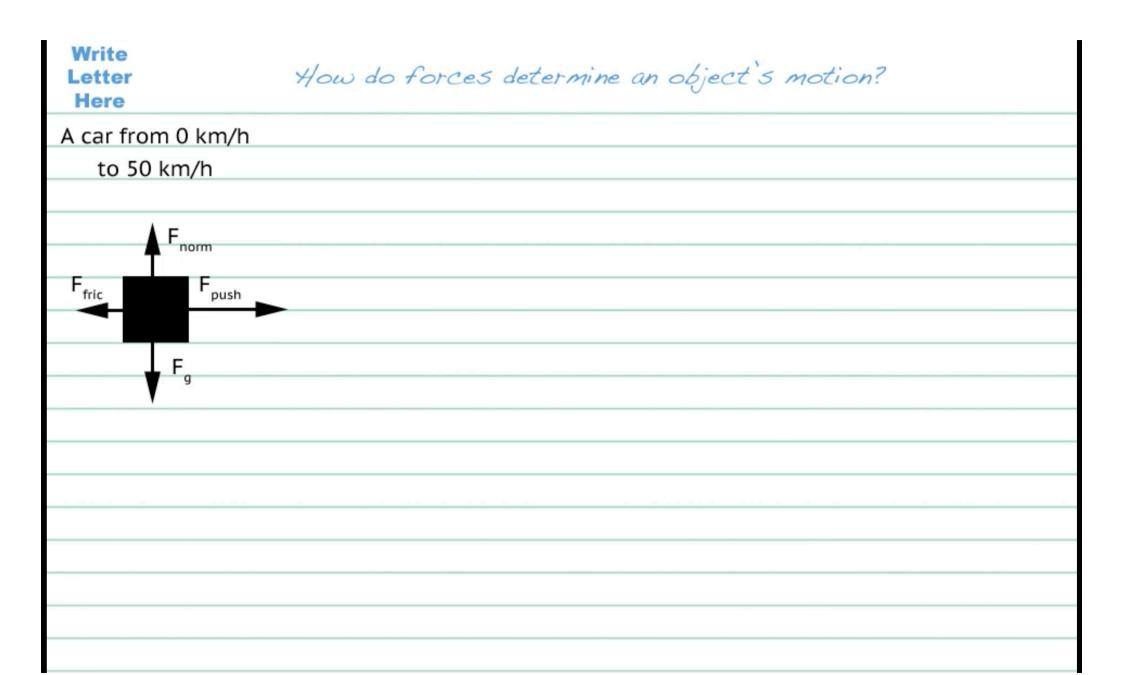




Motion: Balanced Forces = no change.



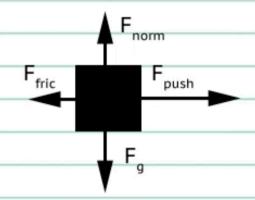
Motion: Unbalanced Forces = do acceleration (9.8 m/s²)



### How do forces determine an object's motion?

A car from 0 km/h

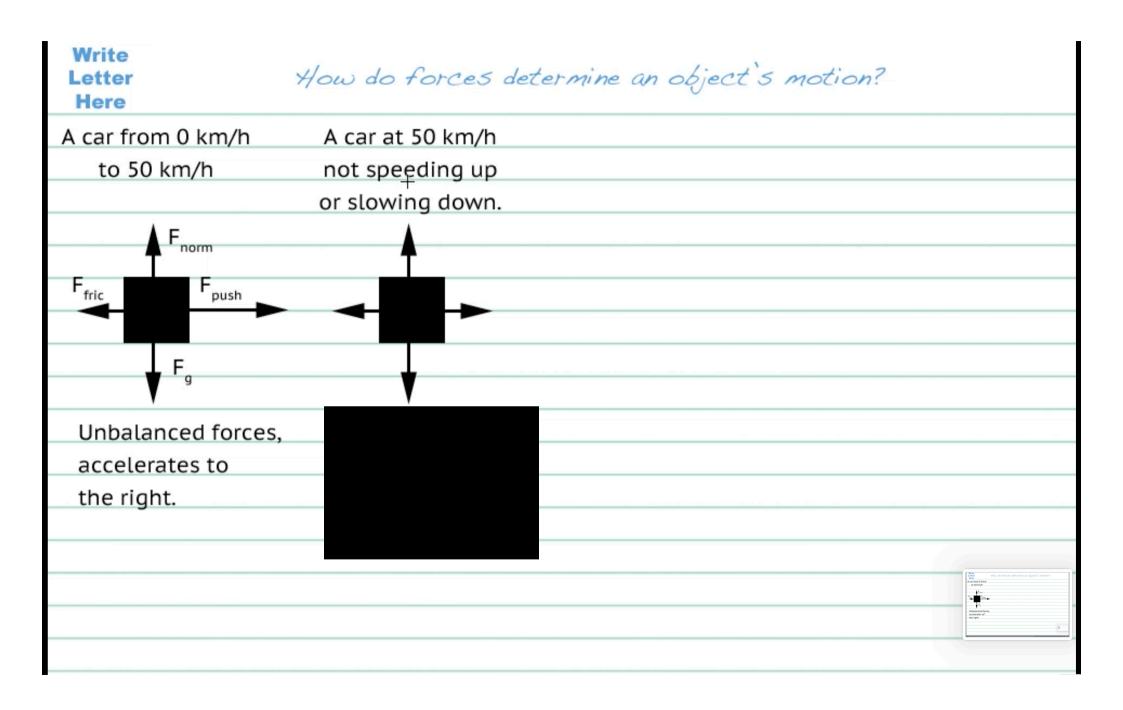
to 50 km/h



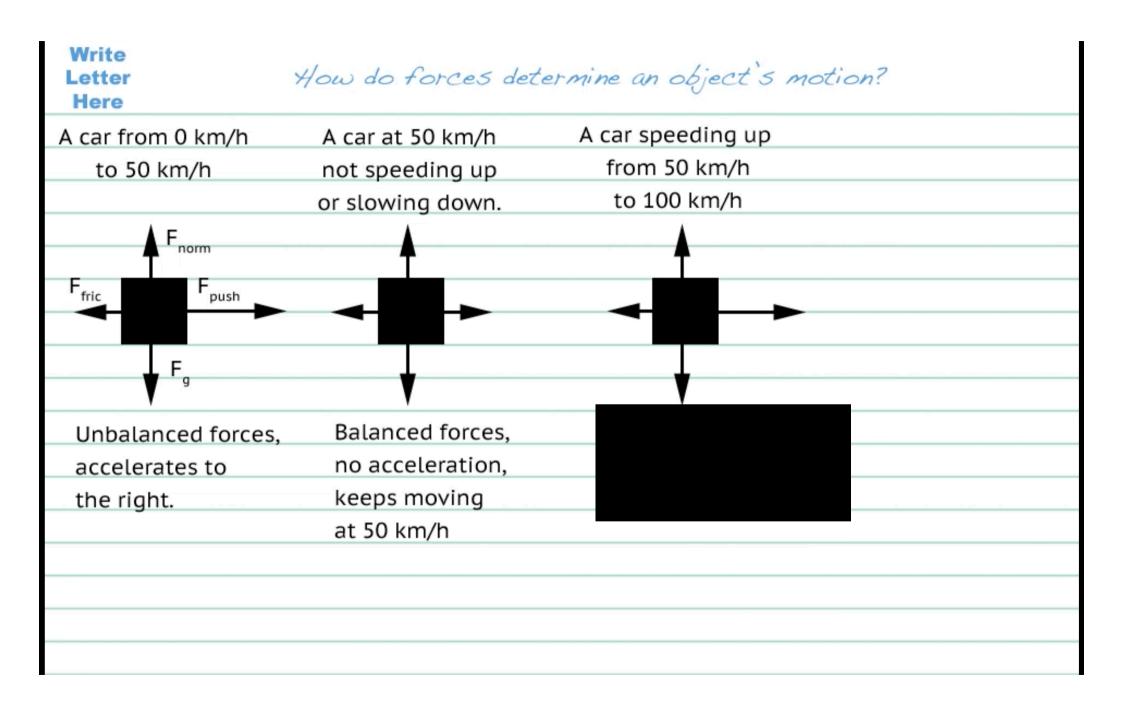
Unbalanced forces, accelerates to<sup>+</sup>

the right.





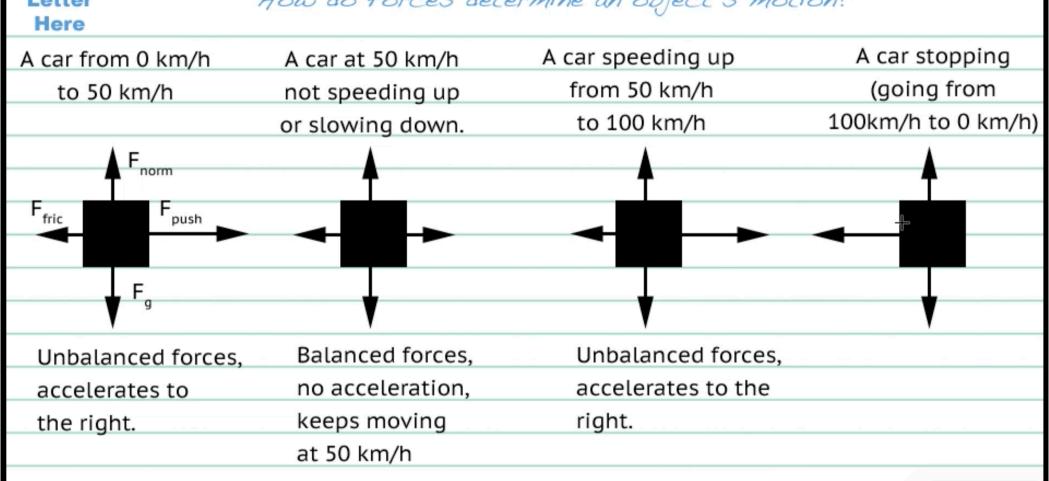
## Write How do forces determine an object's motion? Letter Here A car from 0 km/h A car at 50 km/h to 50 km/h not speeding up or slowing down. $\mathsf{F}_{\mathsf{push}}$ Balanced forces, Unbalanced forces, accelerates to no acceleration, keeps moving the right. at 50 km/h



### Write How do forces determine an object's motion? Letter Here A car from 0 km/h A car speeding up A car at 50 km/h from 50 km/h to 50 km/h not speeding up to 100 km/h or slowing down. $\mathsf{F}_{\mathsf{fric}}$ $\mathsf{F}_{\mathsf{push}}$ Balanced forces, Unbalanced forces, Unbalanced forces, accelerates to no acceleration, accelerates to the keeps moving right. the right. at 50 km/h

#### Write Letter Here

### How do forces determine an object's motion?





#### Write How do forces determine an object's motion? Here A car stopping A car speeding up A car from 0 km/h A car at 50 km/h (going from from 50 km/h to 50 km/h not speeding up to 100 km/h 100km/h to 0 km/h) or slowing down. $\mathsf{F}_{\mathsf{fric}}$ $\mathsf{F}_{\mathsf{push}}$ Unbalanced Balanced forces, Unbalanced forces, Unbalanced forces, forces, accelerates to the no acceleration, accelerates to accelerates right. keeps moving the right. to the left at 50 km/h (slows down)

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