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## مراجعة نهائية الدرس الأول Motion and Force القوة والحركة منهج انسباير

موقع المناهج ← المناهج الإماراتية ← الصف التاسع المتقدم ← فيزياء ← الفصل الثاني ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل  
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة  
فيزياء:

إعداد: Zewin Adham

### التواصل الاجتماعي بحسب الصف التاسع المتقدم



الرياضيات



اللغة الانجليزية



اللغة العربية



التربية الاسلامية



المواد على تلغرام

صفحة المناهج  
الإماراتية على  
فيسبوك

### المزيد من الملفات بحسب الصف التاسع المتقدم والمادة فيزياء في الفصل الثاني

عرض بوربوينت القسم الثالث القوى في بعدين من الوحدة الخامسة الإزاحة والقوى في بعدين

1

عرض بوربوينت القسم الثاني الاحتكاك من الوحدة الخامسة الإزاحة والقوى في بعدين

2

عرض بوربوينت القسم الأول المتجهات من الوحدة الخامسة الإزاحة والقوى في بعدين

3

ورقة عمل عن المتجهات في بعدين

4

## المزيد من الملفات بحسب الصف التاسع المتقدم والمادة فيزياء في الفصل الثاني

أوراق عمل مراجعة الوحدة الخامسة الإزاحة والقوى في بعدين

5



UNITED ARAB EMIRATES  
MINISTRY OF EDUCATION



2024-2025

# Inspire Physics

UAE Edition  
Grade 9 Advanced

LESSON 1  
FORCE AND MOTION

الشرح على قناة YOUTUBE  
اضغط هنا



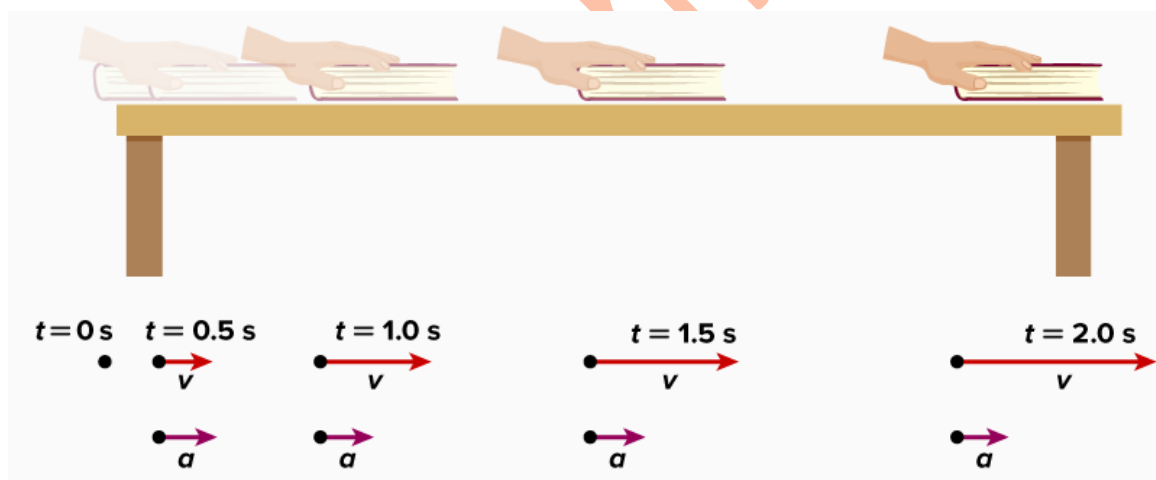
## Forces in One Dimension

### Lesson 1: Force and Motion

**A force** is a push or pull exerted on an object

- A. force may change the motion (direction or velocity) of a body  
B. force may change the shape
- Forces are responsible for all the interactions between particles and objects.
  - They can be put into two categories: **contact forces and non-contact forces**.
  - **Forces** can be added up as **vectors**.

Ignoring Friction between the book and the table at  $t = 0$ , it is at rest, but after 2 seconds it is moving at 1.5 m/s



Draw an arrow on the book to determine the direction of applied force

table comparing **contact forces** and **non-contact forces**:

Aspect	Contact Forces	Non-Contact Forces
<b>Definition</b>	Forces that occur when two objects are in physical contact.	Forces that act on an object without physical contact.
<b>Examples</b>	Friction, tension, normal force, air resistance.	Gravity, electromagnetic force, magnetic force.

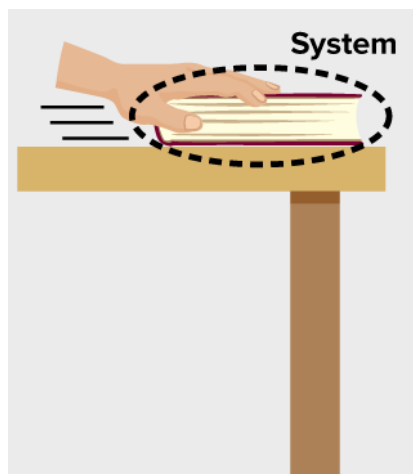
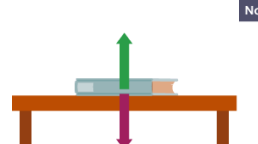
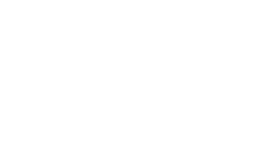
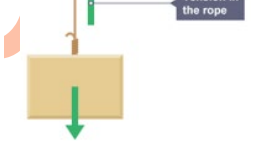
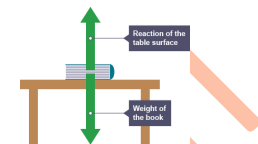
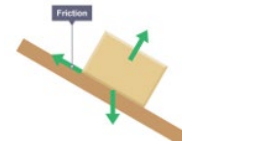
Complete the table with these words [**contact force - field force - not a force**]

Example	Type of Force
a. Mass	
b. Inertia	
c. The push of a hand	
d. Friction	
e. Air resistance	
f. Spring force	
g. Gravity	
h. Acceleration	

Table 4-2

## Some Types of Forces

Force	Symbol	Definition	Direction
Friction	$F_f$	The contact force that acts to oppose sliding motion between surfaces	Parallel to the surface and opposite the direction of sliding
Normal	$F_N$	The contact force exerted by a surface on an object	Perpendicular to and away from the surface
Spring	$F_{sp}$	A restoring force; that is, the push or pull a spring exerts on an object	Opposite the displacement of the object at the end of the spring
Tension	$F_T$	The pull exerted by a string, rope, or cable when attached to a body and pulled taut	Away from the object and parallel to the string, rope, or cable at the point of attachment
Thrust	$F_{thrust}$	A general term for the forces that move objects such as rockets, planes, cars, and people	In the same direction as the acceleration of the object, barring any resistive forces
Weight	$F_g$	A field force due to gravitational attraction between two objects, generally Earth and an object	Straight down toward the center of Earth



When analyzing how a force affects motion, **what is the term** for the object(s) of interest?

- A) External world
- B) Field force
- C) System
- D) Agent

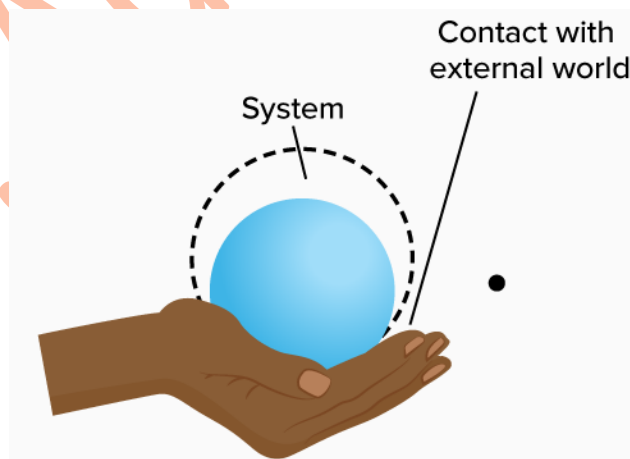
What is a **distinguishing** characteristic of a contact force?

- A) It acts without the need for physical contact.
- B) It exists when an object in the external world touches the system.
- C) It can only occur between two systems.
- D) It does not involve an agent.

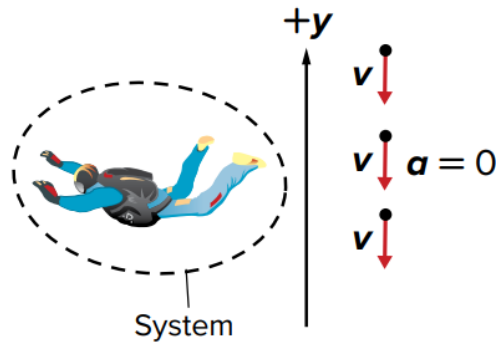
What type of force causes a book to accelerate as it falls to the ground?

- A) Contact force
- B) Gravitational force
- C) Magnetic force
- D) Frictional force

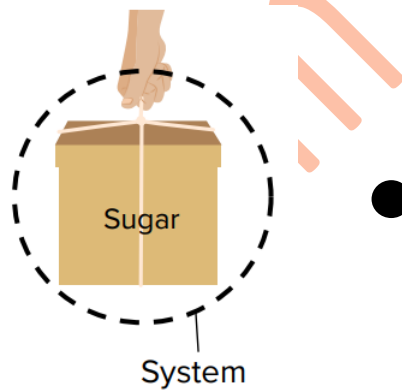
**Draw free body diagram**



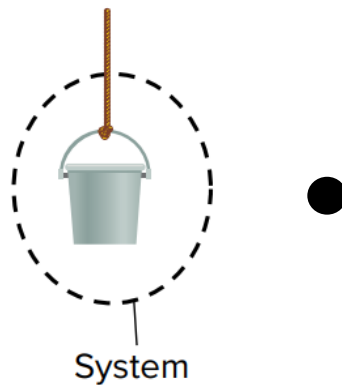
A skydiver falls downward through the air at constant velocity. (The air exerts an upward force on the person.)



Draw a free-body diagram of a bag of sugar being lifted by your hand at constant speed



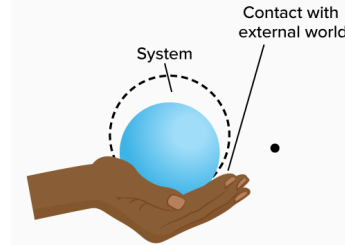
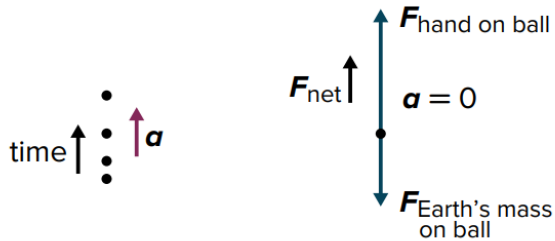
Draw a free-body diagram of a water bucket being lifted by a rope at a decreasing speed





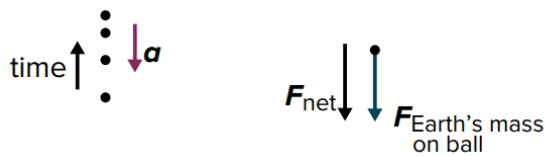
You hold a softball in the palm of your hand and toss it up. Draw the diagrams while the ball is still touching your hand.

**Motion diagram    Free-body diagram**



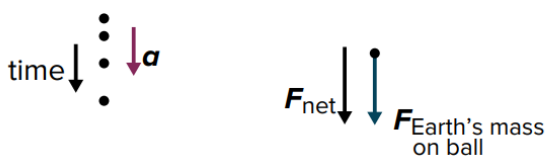
After the softball leaves your hand, it rises, slowing down.

**Motion diagram    Free-body diagram**



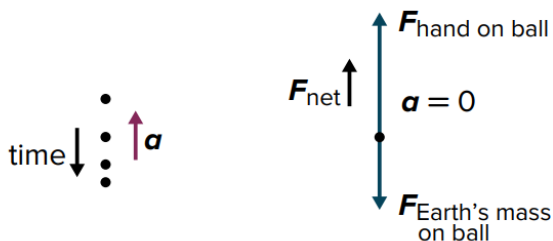
After the softball reaches its maximum height, it falls down, speeding up.

**Motion diagram    Free-body diagram**



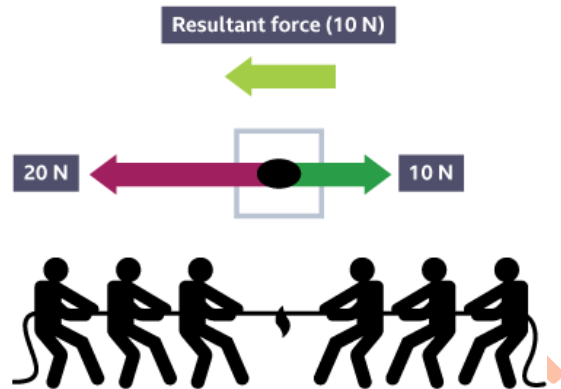
You catch the ball in your hand and bring it to rest.

**Motion diagram    Free-body diagram**



**Resultant force**

sum of all the forces on an object is  
the **net force**



which of the following system of forces provides the block the highest net force.  
(Note: vectors not drawn to scale.)

A)  $\frac{15.3 \text{ N}}{22.7 \text{ N}}$

B)  $\frac{11 \text{ N}}{71 \text{ N}}$

C)  $\frac{403 \text{ N}}{405 \text{ N}}$

D)  $\frac{190 \text{ N}}{227 \text{ N}}$