

شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



ملخص ومراجعة الدرس الأول Motion and Force القوة والحركة

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تاريخ نشر الملف على موقع المناهج: 06:39:52 2024-02-14

التواصل الاجتماعي بحسب الصف التاسع المتقدم



روابط مواد الصف التاسع المتقدم على تلغرام

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

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

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LESSON 1 FORCE AND MOTION

What is the meaning of a **FORCE**?

Force is the action of a **push** or a **pull**. Forces can change the **motion of a body** and they can **deform** the shapes of bodies.

Types of forces:

- 1- **contact force** in which one object has to be in contact (touch) with another object to exert a force on it

Examples :

pull force / push force / friction force (study later) / air resistance (kind of friction)
spring force / normal force / drag force / tension force



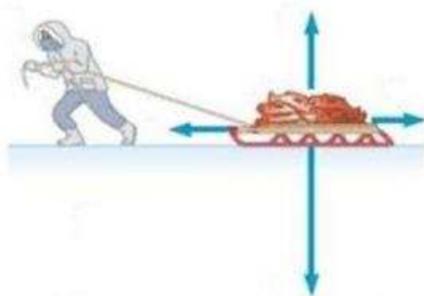
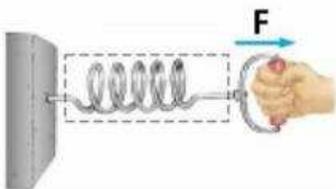
Applied Force



Spring Force



Tension Force



2- Field force is the force exerted between the two objects without touching (contact)

Example :



In the table below, identify the forces as contact or non-contact force.

Force	Contact or non-contact?
Friction	
Force of gravity	
Normal Reaction	
Tension	
Air resistance	
Elastic force	
Buoyant force	
Electric force	
Magnetic force	

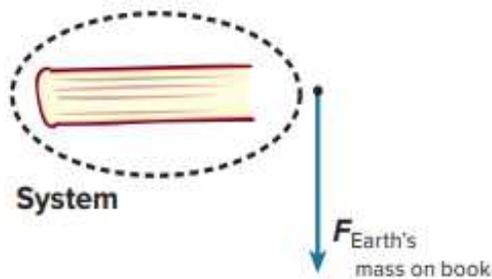
Free body diagram

System is the object which study all the forces effect on it

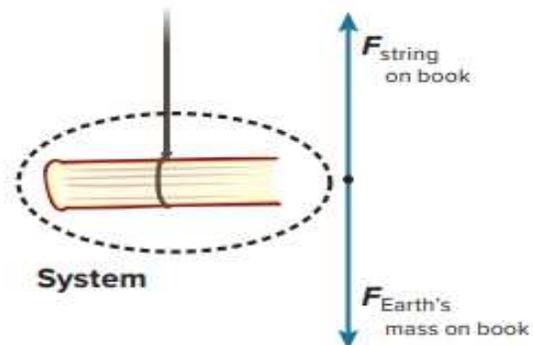
Agent is all the surrounding effect on the system

Important condition when you drawing free body diagram

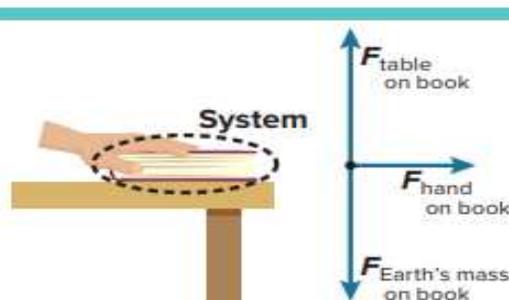
- You must change the system to dot and draw all the forces as arrows go outward from the dot (system)
- There is direct proportional between the length of the arrow and the magnitude of the force effect on the system
- If the system in equilibrium state you must draw the arrows in same length



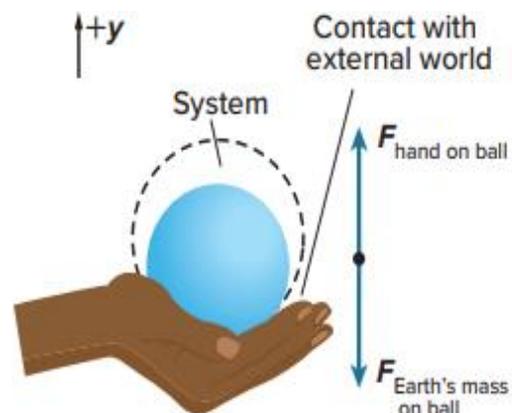
Force exerted by Earth's mass is a field force



Force exerted by string is a contact force



Identify the system



Net Force

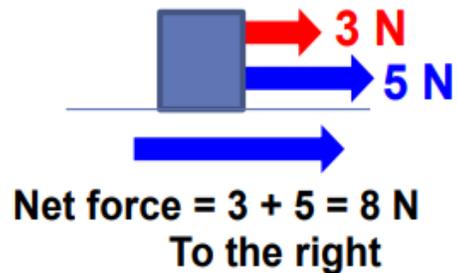
Net Force (resultant force): is the combination of two or more forces acting on one object.

Symbol of net force is F_{net} or ΣF .

When two forces are in the **same** direction

net force is their **addition**.

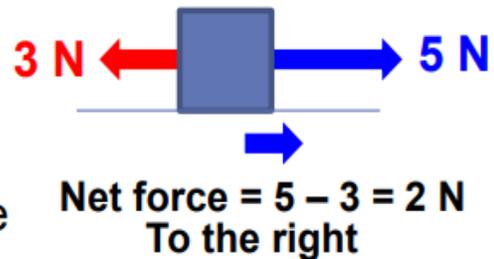
direction is same as them



When two forces are in the **opposite** direction

net force is their **difference**.

direction is same as greater force



What is the resultant force on the object?

