Chapter 4 - Introducing Forces

§4.1 Inertia

p126 -> definition

Look at p 129 / 1 - Which path.

1 - 11

2 - 16

3 - 4

4 -

5 -

§4-2 Common Forces

mass (kg) - the amount of matter in an object. (does not depend on location)

weight (N) - the force of gravity on an object. (does depend on location)

$$\vec{F_g} = m\vec{g}$$

where $\vec{F_g}$ is the weight (N)

m is the mass (kg)

$\vec{g}$ is the acceleration due to gravity* (m/s^2)

* depends on location.

near the Earth's surface $\vec{g} = 9.81 m/s^2$ [down]

	Weight (N)	÷9.81 → mass (kg)	× 2.2 → mass (lb)
A	845	86.1	190
B	660	67.3	148
D	880	89.7	197

MP|135

$m = 4.0$ kg

$\vec{g} = 1.64 m/s^2$ [down] (on the moon)

$\vec{F_g} = ?$

$$\vec{F_g} = m\vec{g}$$

$$\vec{F_g} = (4.0 kg)(1.64 m/s^2 [down])$$

$$\vec{F_g} = 6.6 N [down]$$

On the Earth $\Rightarrow$ $\vec{F_g} = (4.0 kg)(9.81 m/s^2 [down])$

$\vec{F_g} = 39 N$ [down]

To DO:

1. MP|136
2. PP|137