Atmospheric pressure

Reading

Air pressure, also known as atmospheric pressure, refers to the weight of the Earth's atmosphere (a layer of air) pressing down on everything at the surface. The average pressure at sea level is 101.325 kPa.

At higher altitude, the atmospheric density and pressure are lower. This is because high places do not have as much air above them, pushing down. Barometers can be used to measure atmospheric pressure. There is the same atmospheric pressure from all directions. The SI unit for pressure is hPa. Other units such as Atm (atmosphere) Bar (unit) and torr are used for various applications.

Hundreds of pounds of pressure are pressing at you from all sides and at all times. We are able to survive this pressure because our bodies (and all life) evolved in an environment where it is omnipresent. If the pressure is increased or decreased too much, we perish.

Adapted from Simple English Wikipedia

Task 1. Definition

This definition of atmospheric pressure is not correct because the words are not in their correct place. Can you put them in the correct order?

Any point **is** the gases **of** the Earth **at** the

weight **on** atmospheric pressure.

_____ is _____ of

_____ at _____ on _____

Task 2. Main characteristics of atmospheric pressure

Fill in the gaps with these words and, then, match each text with the corresponding image.

	image
Atmospheric pressure at _____ is higher than at the _____.	
_____ acts _____ in all directions.	
There is a _____ between all the _____.	

Mountain **perpendicularly** forces SEA level **atmospheric pressure** balance
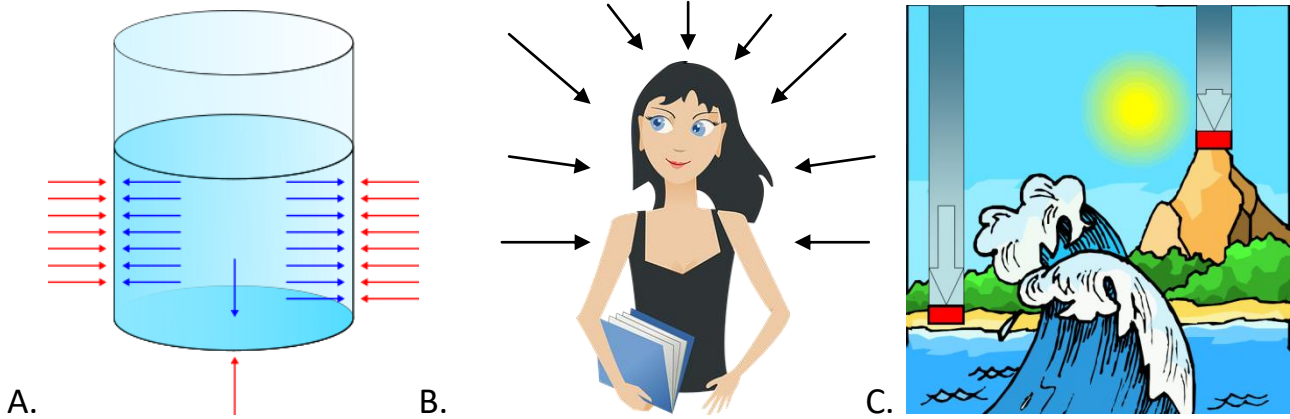
A.   B.   C.

Task 3. Complete the sentences using the missing words (read the text again, if necessary)

Atmospheric pressure is measured with _____ and it is measured in various units. Scientists and engineers typically use the metric unit Pascal (Pa)

At _____level, the atmospheric air pressure can be represented as any of the following:

- _____Pa (Pascal or N/m2)

- 1 _____ (atmosphere)

- 760 mm Hg (millimeters of mercury) or Torr

Task4. Convert from one type of unit to another using the table below

	Pa	bar	atm	Torr
1 Pa	1	10^{-5}	9.87×10^{-6}	7.5×10^{-3}
1 bar	10^5	1	0.987	750.06
1 mbar	10^2	10^{-3}	0.967×10^{-3}	0.75
1 atm	1.013×10^5	1.013	1	760
1 Torr	133.32	1.33×10^{-3}	1.32×10^{-3}	1

5 atm = ...Pa

$6 \cdot 10^6$ Pa = ...Atm

7,42 Torr = ...Pa

20 kPa = ...Pa