

Pressure



Pressure The amount of force acting on a unit of area. The pressure in a liquid increases with depth.

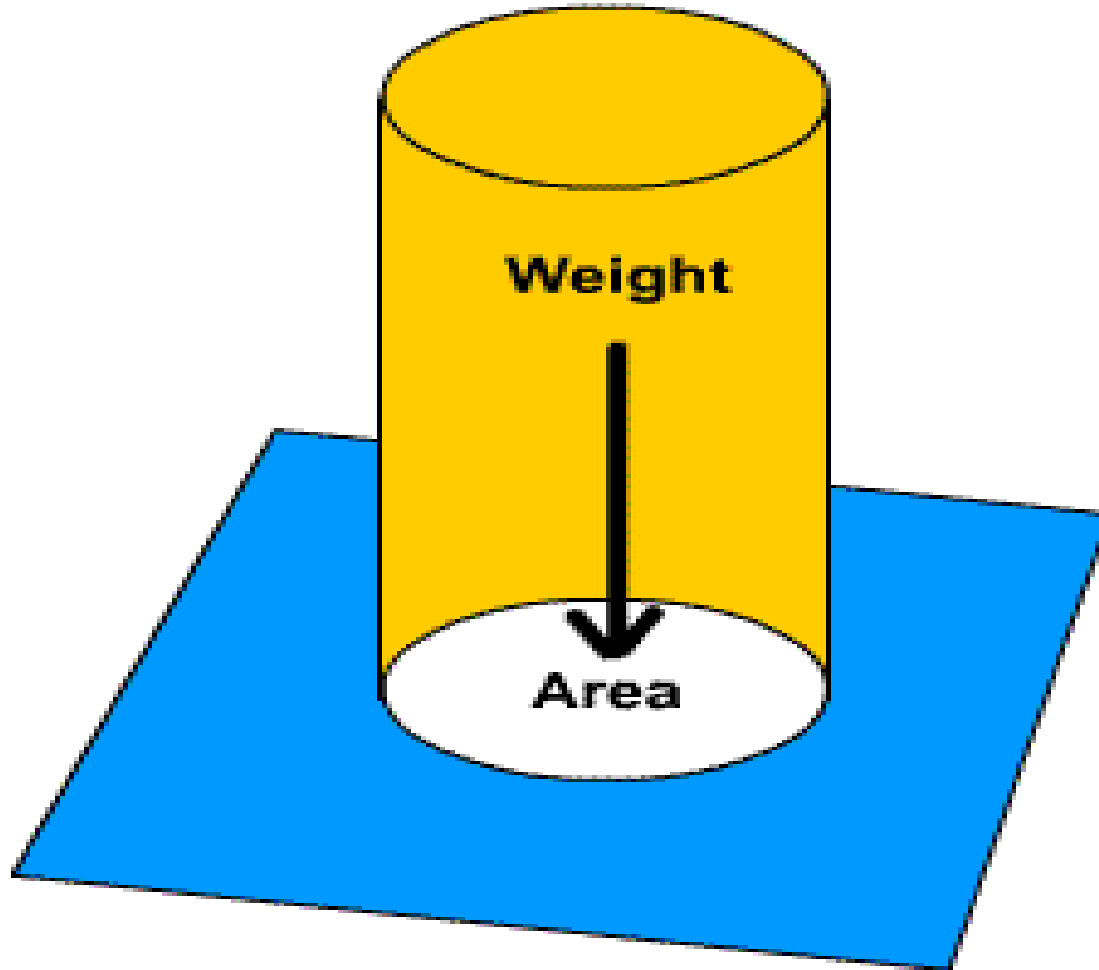
$$pressure = \frac{force}{area} \text{ (page 270)}$$

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

$$p = \frac{f}{a}$$

$$\text{pascal} = \frac{\text{newton}}{\text{square metres}}$$

Pressure is the amount of force working on a unit of area.



When a force is working on a small area it exerts a large pressure.



Air Pressure is all around us



- Atmospheric pressure is caused by gases in the atmosphere.
- It is estimated that there is 500 million tonnes of gas in the atmosphere.

Barometer is used to measure pressure.

Normal atmospheric pressure supports 76cm of mercury in a barometer

Atmospheric pressure is not constant and changes according to temperature and moisture in the atmosphere

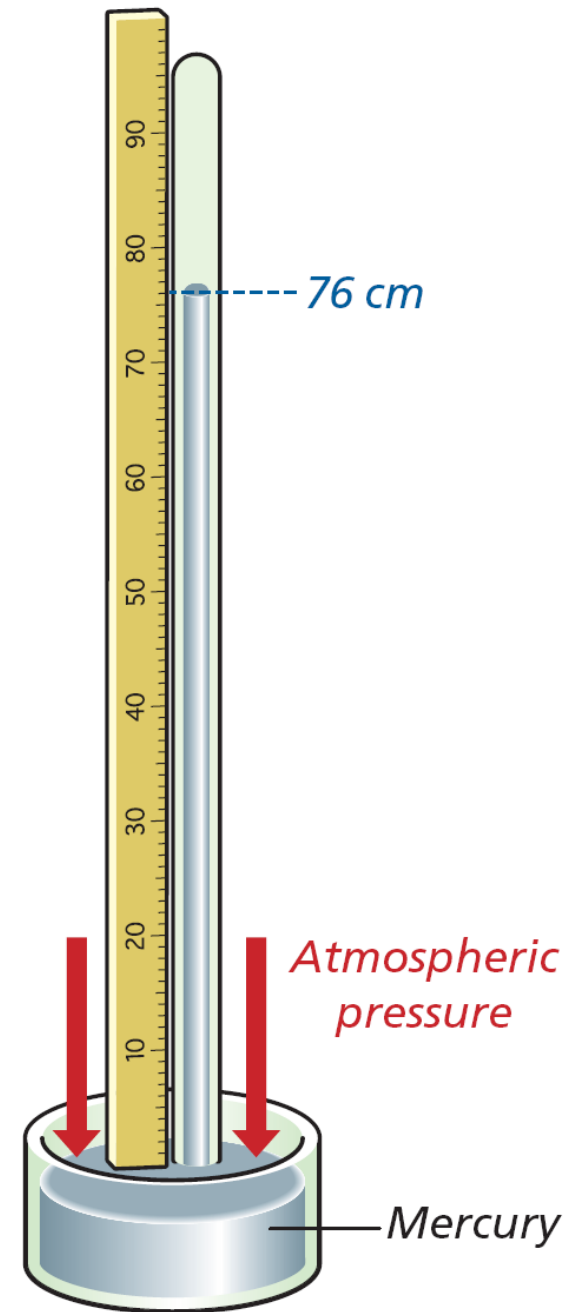


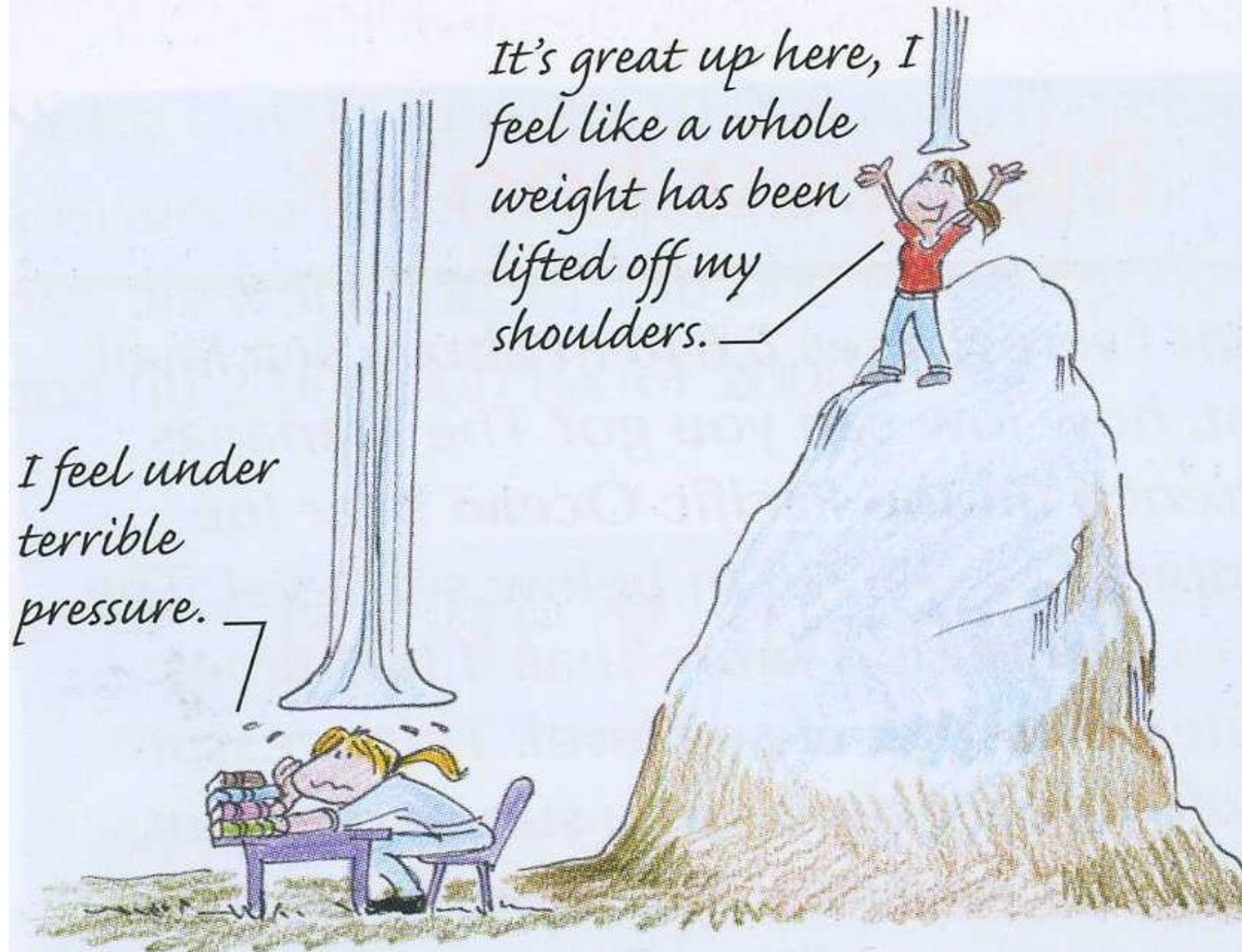
Fig. 37.8
The mercury barometer

Barometer



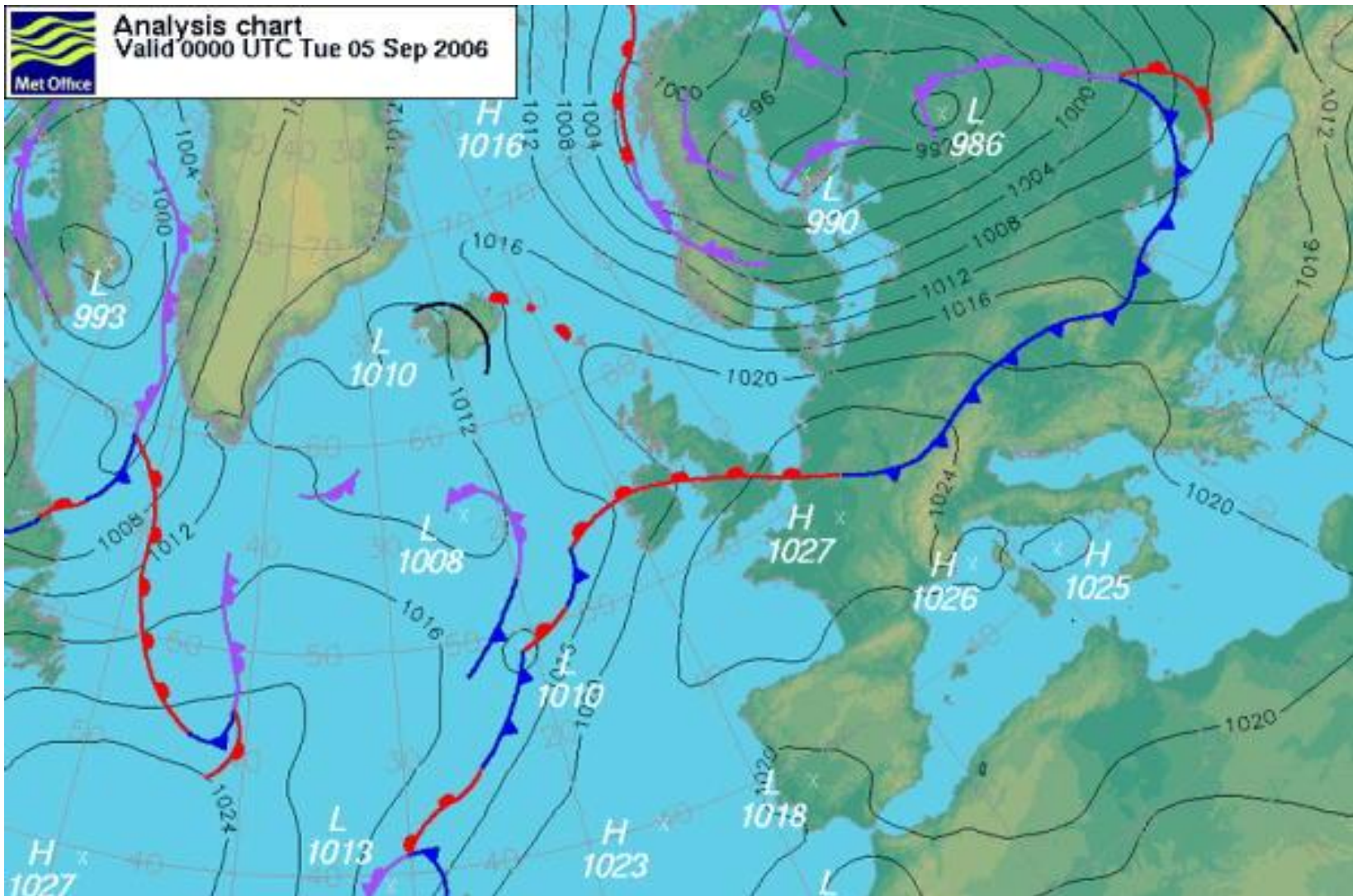
*I feel under
terrible
pressure.*

*It's great up here, I
feel like a whole
weight has been
lifted off my
shoulders.*





Isobars are pressure lines on a map.



Pressure in a liquid increases with depth



Diagram 6.4 Diver at two different depths in water showing columns of water resting on her

Pressure in a liquid increases with depth

