

# Principles of Environmental Biophysics

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## 1 Question

- The  $CO_2$  density  $\rho_c=800 \text{ mg } m^{-3}$ , and the vertical velocity  $w = 0.5 \text{ m } s^{-1}$ . Calculating the instant  $CO_2$  flux through the top plane caused by upward motion of an air parcel from  $t=0s$  to  $t=1s$ .

## 2 Answer

- $f_c = \rho_c \cdot \bar{w} = 800 \text{ mg } m^{-3} \cdot (0.5 + 1) \text{ m } s^{-1} = 1200 \text{ mg } m^{-2} s^{-1}$