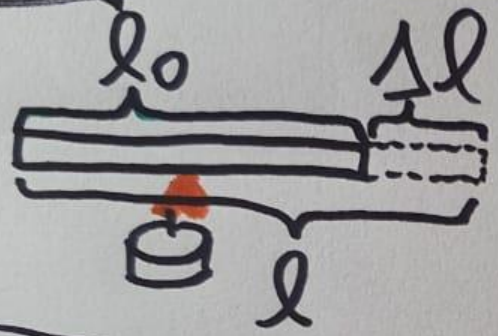
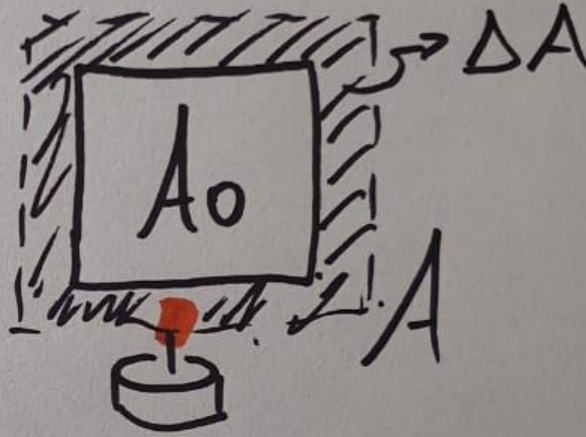
DILATAÇÃO TÉRMICA.



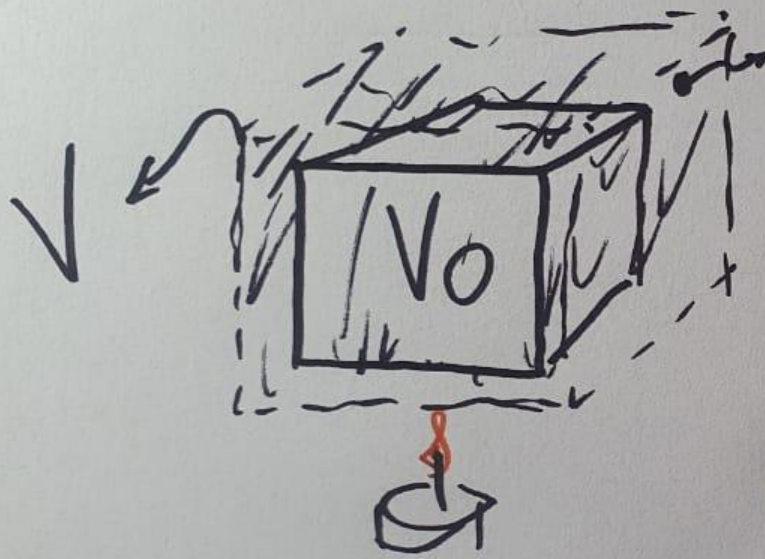
$$\Delta l = l_0 . \alpha . \Delta T$$



$$\Delta A = A_0 . \beta . \Delta T$$

$$\beta = 2\alpha$$

3. Dilatação Volumétrica



$\Delta V = V - V_0$.

$\Delta V = V_0 . \gamma . \Delta T$

$\gamma = 3 . \alpha$

COEF. DE DILATAÇÃO VOLUMÉTRICA.

$T_0 = 0°C$

$V_0 = 100L$

$\Delta V = 0,405L$

$\alpha = 27.10^{-6} °C^{-1}$

$T = ?$

$\gamma = 3.\alpha$

$\Delta V = V_0 . \gamma . \Delta T$

$0,405 = 100 . 27.10^{-6} . 3 \Delta T$

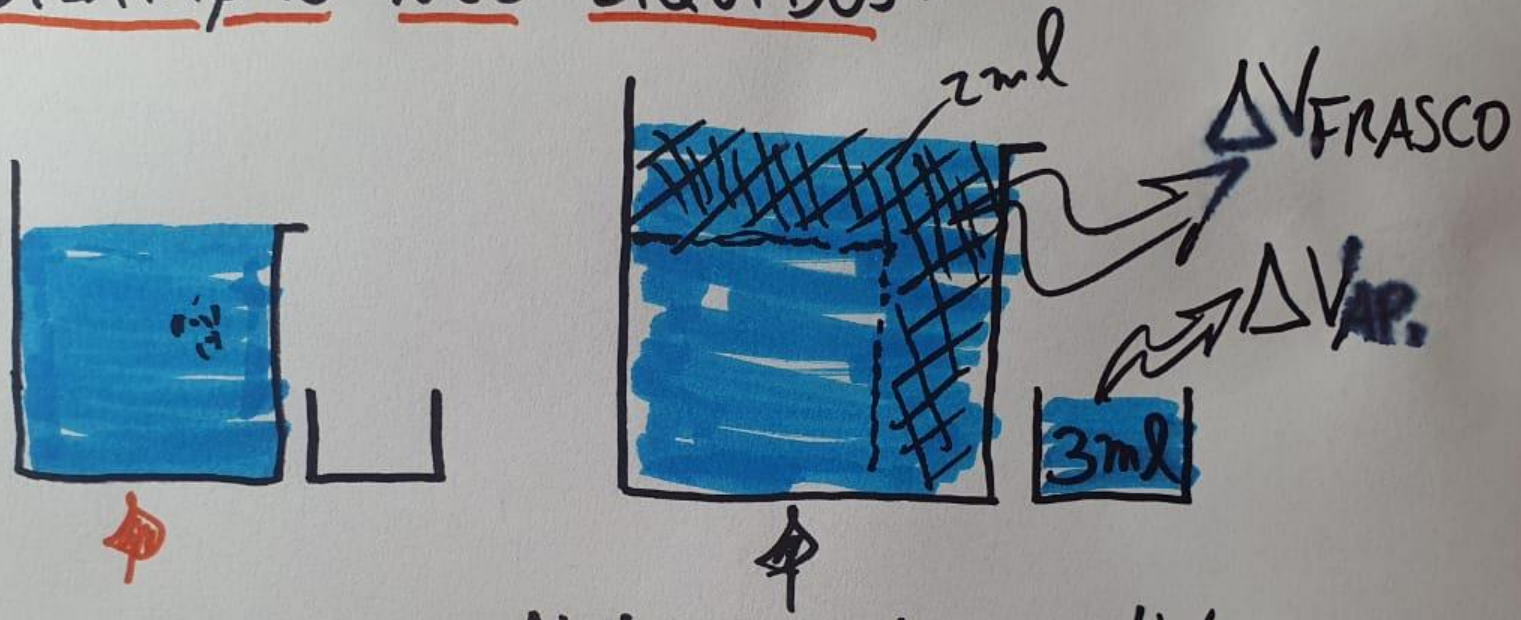
$0,405 = 8100.10^{-6} . \Delta T$

$\Delta T = \frac{0,405}{8100.10^{-6}} = \frac{0,405.10^6}{8100}$

$\Delta T = \frac{405000}{8100} = 50°C$

$\boxed{T = 50°C}$

4. DILATAÇÃO NOS LÍQUIDOS.



$$\Delta V_{REAL} = \Delta V_{FR.} + \Delta V_{AP.}$$

OBS: EM GERAL O LÍQUIDOS DILATAM MAIS DO QUE OS SÓLIDOS!

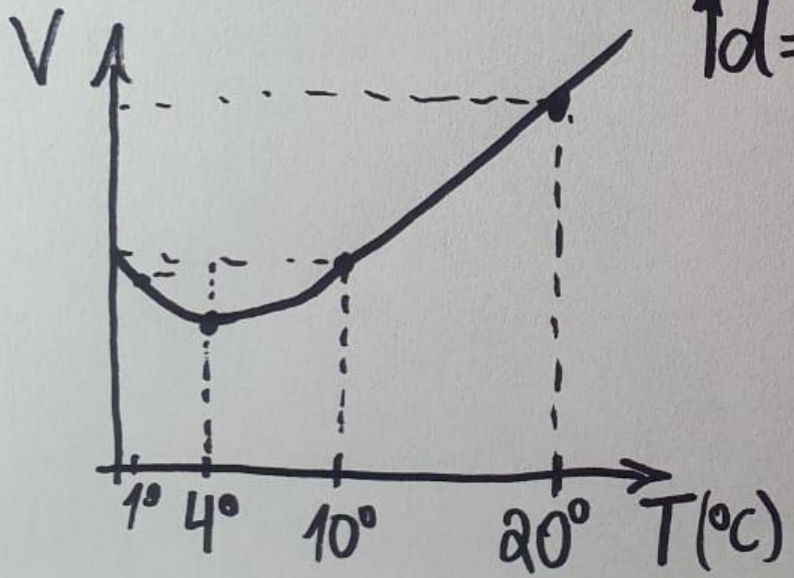
$$\Delta V_{REAL} = \Delta V_{FR.} + \Delta V_{AP.}$$

$$V_0 \cdot \gamma_{liq.} \cdot \Delta T = V_0 \cdot \gamma_{FR} \cdot \Delta T + V_0 \cdot \gamma_{AP.} \cdot \Delta T$$

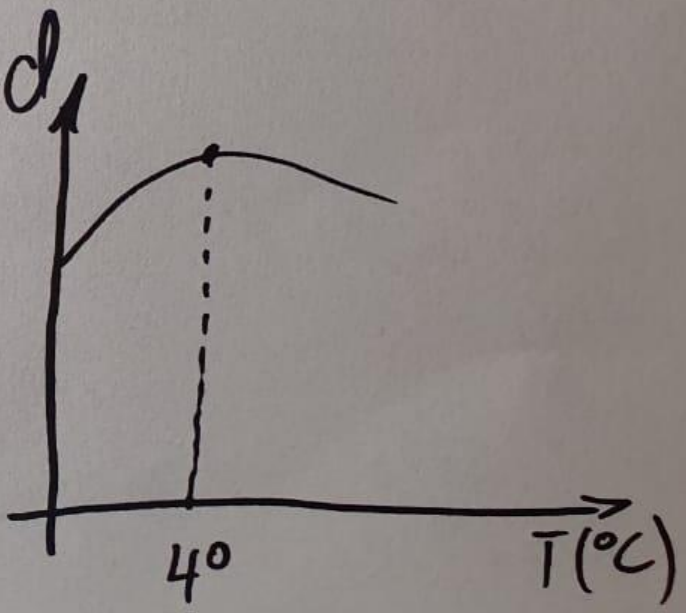
$$\gamma_{líq} = \gamma_{FR} + \gamma_{AP}$$

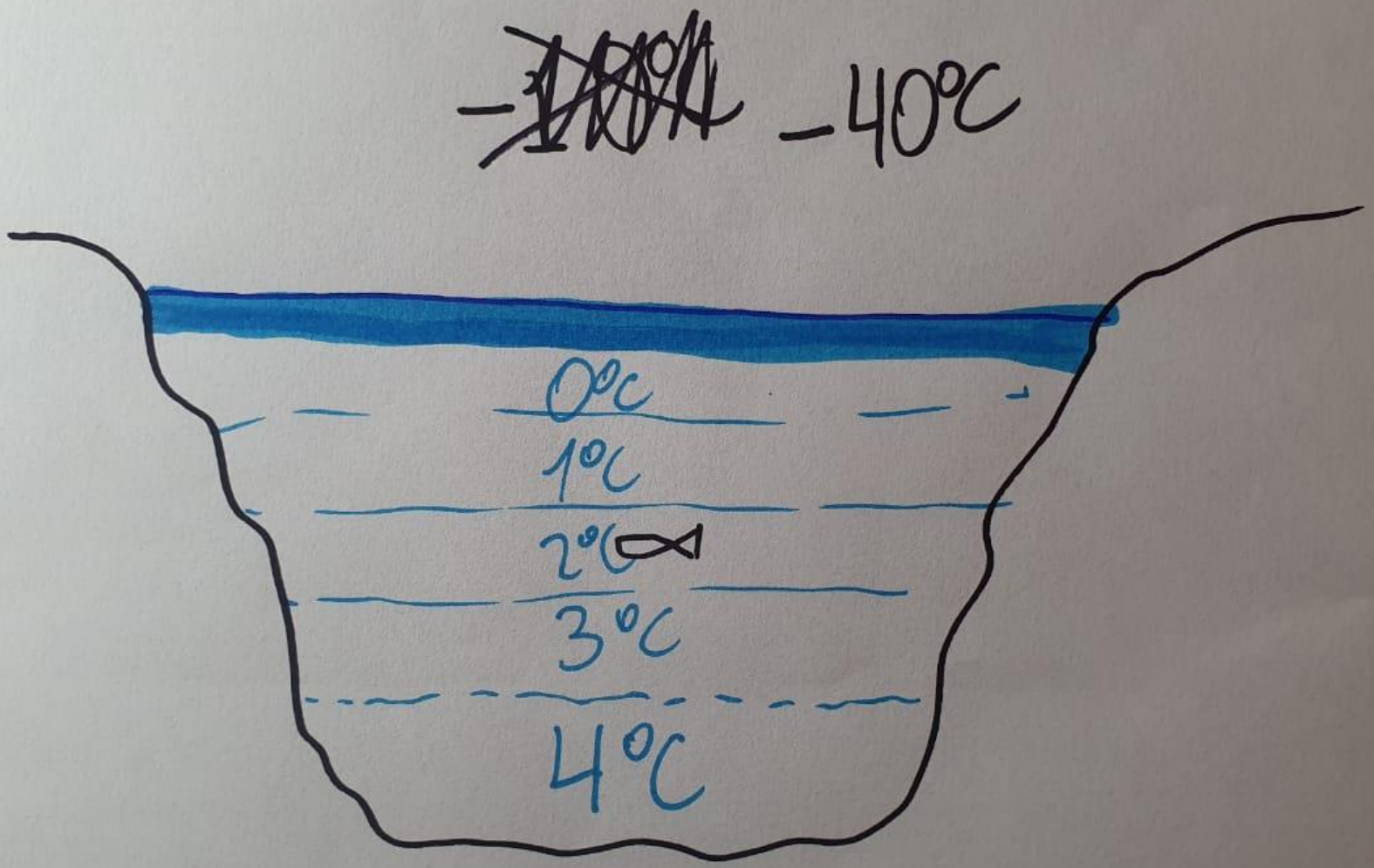
$$\boxed{\gamma_{AP} = \gamma_{líq} - \gamma_F}$$

4. Comportamento Anômalo da Água.



$$\uparrow d = \frac{\boxed{m}}{V\downarrow}$$




-40°C
0°C
1°C
2°C
3°C
4°C