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**Merná tepelná kapacita =  $c$**

**Tepelná kapacita =  $m \cdot c$**

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Kalorimeter:  $m_1 =$

$c_1 =$

$t_1 = 15\text{ }^{\circ}\text{C}$

Voda:

$m_2 = 0,5\text{ kg}$

$c_2 = 4200\text{ J} \cdot \text{kg}^{-1} \cdot \text{K}^{-1}$

$t_2 = 15\text{ }^{\circ}\text{C}$

Olovo:

$m_3 = ?$

$c_3 = 129\text{ J} \cdot \text{kg}^{-1} \cdot \text{K}^{-1}$

$t_3 = 100\text{ }^{\circ}\text{C}$

Hliník:

$m_4 = ?$

$c_4 = 896\text{ J} \cdot \text{kg}^{-1} \cdot \text{K}^{-1}$

$t_4 = 100\text{ }^{\circ}\text{C}$

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$m_1 c_1 = C = 45,2\text{ J} \cdot \text{K}^{-1}$

$m_3 + m_4 = 0,15\text{ kg} \rightarrow m_4 = 0,15 - m_3$

$t = 17\text{ }^{\circ}\text{C}$

$t_1 = t_2 \dots \dots \dots$  pre zjednodušenie príkladu

$t_3 = t_4 \dots \dots \dots$  pre zjednodušenie príkladu

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$$t_1 = t_2 < t < t_3 = t_4$$

$$Q_{pr} = Q_{od}$$

$$Q_1 + Q_2 = Q_3 + Q_4$$

$$C_1(t - t_1) + m_2 c_2(t - t_1) = m_3 c_3(t_3 - t) + c_4(t_3 - t)(0,15 - m_3)$$

$$m_3 = \frac{(c_1 + m_2 c_2)(t - t_1) - 0,15(t_3 c_4 - t c_4)}{c_3(t_3 - t) - c_4(t_3 - t)}$$

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$$\Delta U = Q + W$$

$$\Delta U = Q - W'$$

$$\Delta U = W$$

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$$Q = 8200\text{ J}$$

$$W' = 1000\text{ J}$$

$$\Delta U = ?$$

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$$\Delta U = Q - W'$$

$$\Delta U = 8200 - 1000$$

$$\Delta U = 7200\text{ J}$$

Vnútorná teplota telesa sa zvýšila

DÚ: Príklady z modrej zbierky na stredú!!