

Answer on Question # 73661 - Chemistry - Physical Chemistry

Why is change in internal energy positive for a child in the growth period?

Answer: according to the first law of thermodynamics, the internal energy change of a child (ΔU) is equal to chemical energy added to the system (Q) minus the net work done by the system (W):

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

Since a child in the growth period consumes a lot of food (containing molecules with high potential energy stored in chemical bonds) and does merely no work, then $Q > W$, and the internal energy change is positive.

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