Understanding adiabatic work

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- **Before watching the video** explain what what it means when we state that a transition takes place adiabatically.

- Why does the piston head apply a force on the gas and how is this force connected to the pressure applied on the gas

- Write an expression for the work done when the piston head moves upwards by an amount Δx and hence derive an expression for the amount of work done when a gas expands by an amount ΔV.

- Explain why the quantity that you arrived at in the previous question has a negative sign in front of it?

- Referring back to earlier answer to this comprehension answer the following question. When can this expression be used to calculate the work done when a gas expands? In other words, does this this equation give you the work done whenever a gas expands?