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Subject: Chemistry 2

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Applied exercises series No. 4
(Thermodynamics)

Exercise No. 1:

Here are some examples of systems:

- a- wood burning in a fireplace.
- b- a running internal combustion engine.
- c- liquid water boiling in a saucepan.
- d- liquid in an ideal thermos flask.
- e- a computer turned on.
- g- a tree.

Are these systems open, closed, or isolated? What is the nature of the exchanges with the external environment?

Exercise No. 2:

Indicate in each of the following cases whether it is an intensive or extensive quantity:

- a- volume
- b- temperature
- c- mass
- d- pressure

Exercise No. 3:

Which of the following three transformations is closest to a transformation carried out under reversible conditions?

- a- combustion of methane
- b- heating of water in a container over a flame
- c- natural evaporation of water at room temperature