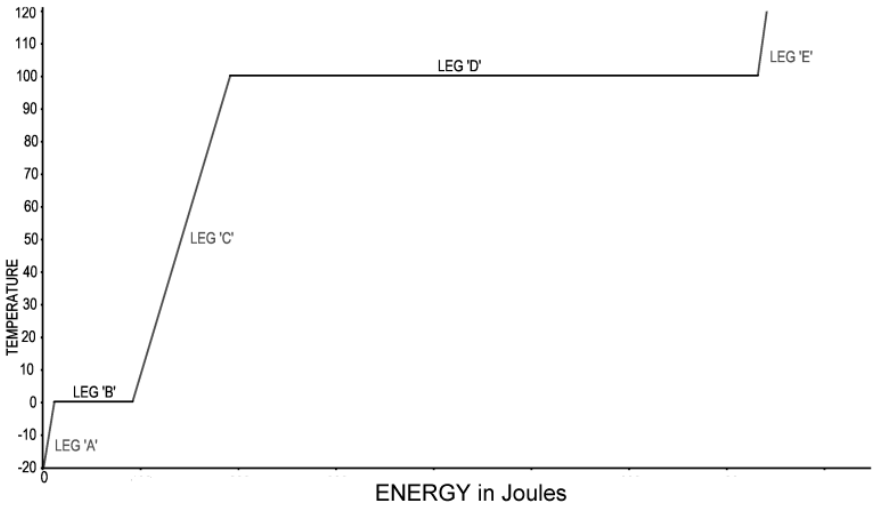
Thermochemistry of Water Calculations Practice

Use the sheet on Heat of Fusion/Heat of Vaporization/Specific Heat when doing these problems.



Problem #1:

A. How much energy is involved in heating 20 grams of water from 20 degrees Celsius to 50 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #2:

A. How much energy is involved in boiling 20 grams of water at 100 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #3:

A. How much energy is involved in freezing 20 grams of water at 0 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #4:

A. How much energy is involved in condensing 100 grams of steam at 100 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #5:

A. How much energy is involved in melting 60 grams of ice at 0 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #6:

A. How much energy is involved in cooling 20 grams of water from 60 degrees Celsius to 10 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #7:

A. How much energy is involved in condensing 30 grams of steam at 100 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?

Problem #8:

A. How much energy is involved in heating 50 grams of water from 15 degrees Celsius to 85 degrees Celsius?
B. Is the energy absorbed by the water, or given off?
C. On what part of the energy diagram is this taking place?