



Specific heat of water:
 1 calorie/gram °C
Specific heat of water vapor: 0.44 cal/gram °C
Specific heat of ice:
 0.5 calorie/gram °C
Latent heat of melting:
 80 calorie/gram
Latent heat of vaporization:
 540 calorie/gram

START: 1 gram of solid ice at -10°C
 END: 1 gram of water vapor at 120°C

Temp change	State	Heat change
-10° to 0°C	S	$1g \times 10^\circ C \times 0.5 \text{ cal/g}^\circ C = 5 \text{ cal}$
0°C	S → L	$1g \times 80 \text{ cal/g} = 80 \text{ cal}$
0° to 100°C	L	$1g \times 100^\circ C \times 1 \text{ cal/g}^\circ C = 100 \text{ cal}$
100°C	L → G	$1g \times 540 \text{ cal/g} = 540 \text{ cal}$
100° to 120°C	G	$1g \times 20^\circ C \times 0.44 \text{ cal/g}^\circ C = 8.8 \text{ cal}$
	Total	733.8 cal

START: 5 gram of solid ice at -20°C
 END: 5 gram of water vapor at 105°C

Temp change	State	Heat change
-20° to 0°C	S	
0°C	S → L	
0° to 100°C	L	
100°C	L → G	
100° to 105°C	G	
	Total	

START: 10 gram of water at 5°C
 END: 5 gram of water vapor at 100°C

Temp change	State	Heat change
	S	
	S → L	
	L	
	L → G	
	G	
	Total	

START: 10 gram of Ice at -50°C

END: 10 gram of water vapor at 170°C

Temp change	State	Heat change
	S	
	$S \rightarrow L$	
	L	
	$L \rightarrow G$	
	G	
	Total	

START: 5 gram of solid ice at -10°C

END: How does it end after the addition of 5700 calories

Temp change	State	Heat change
	S	
	$S \rightarrow L$	
	L	
	$L \rightarrow G$	
	G	
	Total	