

More Problems: Changes of phase and temperature.

To raise the temperature of 1 gram of water 1°C requires how much energy? \_\_\_\_

To raise the temperature of 1 gram of ice 1°C requires how much energy?--- \_\_\_\_

To raise the temperature of 1 gram of steam 1°C requires how much energy? \_\_\_\_

To melt 1 gram of ice (at 0°C) requires how much energy?----- \_\_\_\_

To boil away 1 gram of water (at 100°C) requires how much energy?----- \_\_\_\_

1. How many calories are needed to change the temperature of 4 grams of water from 20°C to 25°C?  
total calories \_\_\_\_\_

2. How many calories are needed to change 10 grams of ice at -10°C to water at 10°C?  
total calories \_\_\_\_\_

3. What amount of heat energy is needed to change 2 grams of ice at -4°C to steam at 106°C?

4. If 5 grams of ice at a temperature of -8°C are raised to a temperature of -2°C, how many calories of heat were added to the ice?

5. How much energy is needed to completely melt 400 grams of ice at a temperature of 0°C?

6. If 10,000 calories are added to 100 grams of steam at 200°C, what will the final temperature of this steam become?

7. If 200 calories of energy are added to 50 grams of water at a temperature of 25°C, what will the final temperature of the water become?

\*\*8. If 27,000 calories are used to completely vaporize (boil into steam) some water which was already at boiling temperature, then how much water was there?