

17. True or False: at thermal equilibrium, the kinetic energy of two objects that had previously been in thermal contact is the same.
18. What "work" is performed when heat is transferred?
19. True or False: when the air temperature around a Galileo thermometer gets colder, that coldness is transferred into the liquid in the column, which causes it to contract and change the position of the floating orbs.
20. How is it possible that water molecules can breach the surface of water during evaporation?
21. True or False: for evaporation to occur, heat must be added to the water.
22. What is 1 calorie?
23. What is the conversion from 1 calorie to the joule?
24. Correct this statement: $100^{\circ}\text{C} = 418600\text{J}$.
25. What is specific heat?
26. The specific heat of gold (solid) is $0.031\text{cal/g}^{\circ}\text{C}$ and of ethyl alcohol (liquid) is $0.58\text{cal/g}^{\circ}\text{C}$. Which of these statements is/are true (more than one may be correct)?
 - a. It will take more heat to raise 10g of gold 5°C than it will to raise the temperature of 10g of ethyl alcohol the same amount.
 - b. Ethyl alcohol is more resistant to heating than gold.
 - c. A quantity of heat applied to 100g of gold will raise its temperature about 19 or 20 times higher than the same amount of heat applied to 100 g of ethyl alcohol.
 - d. After heating equal quantities of gold and ethyl alcohol enough to raise their temperatures by 20°C , the gold will cool faster than the alcohol.
27. You are camping and about to build a fire. Being a physics nerd, you decide to figure out how much energy will be supplied to the wood in your campfire before it starts to burn. How much energy is required to heat your 10 kg of wood from 12°C to 300°C ? (The specific heat of wood is in **Figure 4.7.1**). List your answer in scientific notation using calories as the unit.
28. Yesterday, you performed an experiment in which you heated 516 g of copper from the strictly controlled room temperature of your lab at 20°C . During this experiment, you know you delivered 975 cal to the copper, but you forgot to write down the ending temperature of the copper. If it is possible, calculate what the ending temperature was.