



4. Your older brother announces that the lid to a jar of pickles from the refrigerator is “impossible” to loosen. You take the jar, hold the lid under the hot water from your sink’s faucet for a few seconds, and calmly open the jar. Your brother, when faced with this blow to his pride, claims that he loosened it for you. What knowledge of materials have you applied in this situation that really explains how you were able to open the lid?
  
5. Which would feel warmer to the touch - a bucket of water at  $50^{\circ}\text{C}$  or a bathtub filled with water at  $25^{\circ}\text{C}$ ? Which of these stores more energy? Account for any differences in your answers to these questions.