

Science Worksheet 2-10a Heat Transfer Worksheet

Name _____ Date _____

In problems 1-3, calculate the heat change (calories) using the equations below

$$\Delta \text{ Heat} = \text{Specific Heat} \times \text{mass} \times \Delta \text{ temperature}$$

1. How many calories of heat are required to raise the temperature of 550 g of water from 12.0 °C to 18.0 °C? (remember the specific heat of water is 1.00 cal/g x °C)

2. How much heat is lost when a 640 g piece of copper cools from 375 °C, to 26 °C? (The specific heat of copper is 0.09 cal/g x °C)

3. The specific heat of water is 1.00 cal/g x °C. How much heat is lost when 100 g of water cools from 100 °C to 25 °C?

<p>and/or cooling system from an HVAC contractor or estimate</p>			<p>STEP 2: Obtain quote for other heating system average cost:</p> <ul style="list-style-type: none"> Existing home \$4,000 – \$9,000 New home \$9,000 – \$15,000 <p>Enter this amount in Box B</p>	
<p>eligible for financial incentives and grants?</p> <p>Enter estimated dollar amount for incentives/grants in Box C.</p>			<p>STEP 3: Is your geothermal installation eligible for financial incentives and grants?</p> <p>Enter estimated dollar amount for incentives/grants in Box C.</p>	
<p>for a geothermal system and enter in Box D.</p>			<p>STEP 4: Calculate the cost difference for a geothermal system</p>	
<p>COSTS:</p>			<p>COMPARE GEOTHERMAL SYSTEM COSTS</p>	
Geothermal system cost			Geothermal system cost	
Conventional heating system cost			Conventional heating system cost	
Dollar amount of any financial incentives/grants available for a Geothermal System (e.g. Green Energy Equipment Tax Credit)			Dollar amount of any financial incentives/grants available for a Geothermal System (e.g. Green Energy Equipment Tax Credit)	
Cost difference for a geothermal system			Cost difference for a geothermal system	