Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_

Review for Summative: LT 2.6, 2.7

The test will be **Wednesday 10/30.**

**Practice Problems:** There is 1-2 of each type of question you will be expected to do on the quiz.

1. Fill in the blanks using the words provided: Using the analyzing temperature data activity from the first day: Water has a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (higher/lower) specific heat capacity than rocks or soil do. Because of this, it takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/less) energy to heat up water than soil. Therefore, coastal communities need more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (more/less) to change the temperature, which keeps their climate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (hotter/colder) in the summer and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (hotter/colder) in the winter.
2. Something that conducts heat well is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Something that does not conduct heat well is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. If I want to keep my coffee hot, is it better to put it in a cup made of metal, which is a good conductor, or a cup made of plastic, which is an insulator? Explain.
4. If I add 45 cal of heat to glass (specific heat of 0.50 cal/g˚C) and 45 cal of heat to wood (specific heat 0.40 cal/g˚C), which will have the greater temperature change (assuming mass is equal)? Why?
5. Steel has a specific heat of 0.11 cal/g˚C. Granite has a specific heat of 0.06 cal/g˚C. If we have the same mass, which one needs more energy to increase its temperature by 15 ˚C? Why.
6. A 25.0 g piece of metal at 100 ˚C is placed in 25.0 g of water at 20 ˚C. The metal’s specific heat is 0.9 J/g˚C and water’s specific heat is 4.184 J/g˚C.
   1. Which way does energy flow?
   2. How will the final temperature of the water and the metal compare?
   3. What will have a greater temperature change, the metal or the water? Why?
7. Water has a specific heat of 4.184 J/g °C, while ice has a specific heat of 2.11 J/g °C. If 10 g of each were to cool by 10 °C, which one would release more heat? Justify your answer.
8. How much heat is required to raise the temperature of 67.0g of water by 40.3 °C? The specific heat of H2O is 4.184J/g°C) **[Ans: 11300 J]**
9. What is the mass of a sample of metal that is heated from 58.8°C to 88.9°C with a specific heat of 0.4494 J/g°C, if Q = 4500.0 J? **[Ans: 333 g]**
10. Calculate the heat capacity of a piece of wood if 1500.0 g of the wood absorbs 6.75×104 joules of heat, and its temperature changes from 32°C to 57°C. **[Ans: 1.8 J/g°C]**
11. To what temperature will a 50.0 g piece of glass raise if it absorbs 5275 joules of heat and its specific heat capacity is 0.50 J/g°C? The initial temperature of the glass is 20.0°C. **[Ans: 230 °C]**