Name_____ Period _____ Date _____

Sunny Shelter

STEM Sims

Lesson 5: Window Tint
Windows serve as great ways to view the nature outside from inside as well as let the sun shine in. How might a tint on the window affect the energy efficiency of a house?

Doing the Science
1.   Start the Sunny Shelter Simulation by clicking on the "Sim" tab.
2.   Make the following selections:
*   House Size: Small
*   Sheltering: Earth Sheltered
*   Window Direction: North Facing/ Summer, South Facing/Winter
*   Window Size: Small
*   Window Tint: Present
*   Thermal Mass: Low
*   Material R-value: 10
3.   Click on the Design House Now button.
4.   The Energy Usage Thermometer is to the right of the image. Record the value in Table 1 below.
5.   Click the Design Menu button to return to the main screen.
6.   Repeat steps 2-5 but first change window tint to absent. Then repeat the choices again but change season from summer to winter until you have measured all four values. (Note: be sure that when in summer, you have the window direction set to north and when in winter, you have the window facing south.)

Table 1.

Window Tint	Present	Absent
Summer		
Winter		

Do You Understand?
1.   How does window tint affect energy efficiency in summer? In winter?

2.   Looking at the main menu, predict which other condition might be inversely related based on season besides window tint and window direction.