Name_____ Period _____ Date _____

Sunny Shelter

STEM Sims

Lesson 4: Window Size

Windows serve as great ways to view the nature outside from inside as well as let the sun shine in. How does the size of 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: South Facing
    - Window Size: Small
    - Window Tint: Absent
    - Thermal Mass: Low
    - Material R-value: 10
    - Season: Winter
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 change Window Size from small to medium and then to large until you have measured all three values.

Table 1.

Window Size	Small	Medium	Large
Energy Usage			

Do You Understand?

1. How does window size affect energy efficiency?

2. Looking back at your data from Lesson 1, is the correlation of window size to energy efficiency directly or inversely related to the correlation of house size to energy efficiency?