

### BLM Mod.3.5#4: Comparing Window and Wall Heat Loss

**Question**

- How does glass compare to wall material in conserving energy?

**Materials**

- thermometer
- Data-Recording Chart
- access to a window on the north, south, east, and west sides of a home

**Method**

- Put the thermometer in the centre of the pane of glass for each window (north, south, east, and west) and record the reading on the Data-Recording Chart.
- Identify a spot on the outside wall adjoining each window, at least three feet away from the window or any door. Put the thermometer on that spot and record the reading on the Data-Recording Chart.
- Go outside and record the temperature near each window (north, south, east, and west).
- In the Temperature (T) Difference column, calculate the difference between the inside temperature and the outside temperature, for each window and wall.

**Window Versus Wall: Data-Recording Chart**

How many window panes are there? \_\_\_\_\_ What is the thickness of the wall? (cm) \_\_\_\_\_

Outside	T (C)	Inside Window	T (C)	T Difference	Inside Wall	T (C)	T Difference
North		North			North		
South		South			South		
East		East			East		
West		West			West		

Which material (wall or window) has the greatest variation in temperature from outside to inside?
Does compass direction make any difference? Why or why not?
If you were designing an energy-efficient home, how would you apply this data?