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Conceptual Physics: \_\_\_\_\_  
Date: \_\_\_\_\_

Unit VI  
Thermal Energy and Heat  
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# VI

## Heat Loss Activity

**Objective:** The purpose of this activity is to determine the heat loss from a room.

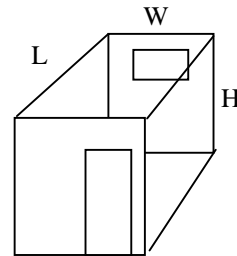
### Directions

1. Measure the total area of the room including all walls and the floor and ceiling. Imagine the walls, floor and ceiling to be rectangle. Determine the area by multiplying base times height.

Area (square meters)

West Wall	_____
East Wall	_____
South Wall	_____
North Wall	_____
Floor	_____
Ceiling	_____
Total Area:	_____

$$\text{Area} = L \times W$$



What are the walls made of? \_\_\_\_\_

How thick are they? \_\_\_\_\_

What is the R-value of this material (see page 157) \_\_\_\_\_.

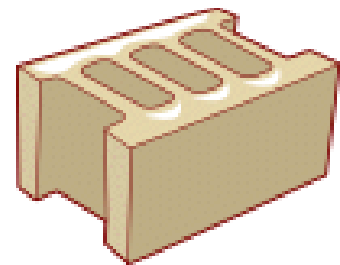
Find the total R-value for this material by multiplying the material's thickness by the R-value from the chart.

2. To find the heat loss multiply the area by the temperature difference and divide by the R-value.

Heat Loss

West Wall	_____
East Wall	_____
South Wall	_____
North Wall	_____
Floor	_____
Ceiling	_____
Total Heat Loss	_____

$$\text{Heat Loss} = \text{Area} \times T_{\text{diff}} / R_{\text{value}}$$



Conclusion

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