

When you buy insulation it has a big letter R followed by a number. That big R number means resistance to heat flow, the higher the number the more the insulation resists the flow of heat, that means it is better at insulating.

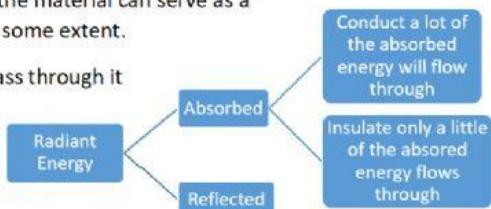


Choose whether or not the statement is true or false. If you choose False, write the term that would make the statement true in the blank.

- Materials that are poor conductors are *poor* insulators.
- The transfer of energy through matter by direct contact of its particles is *convection*.
- The transfer of energy in the form of invisible waves is *conduction*.
- Solids usually conduct heat *better* than liquids and gases.
- The R-value of insulation indicates its *resistance* to heat flow.
- Air is a *poor* heat conductor.
- Wind and ocean currents are examples of *conduction* currents.
- Energy is usually transferred in fluids by *radiation*.
- As water is heated, it expands, becomes *less* dense, and rises.
- Dark-colored materials absorb *less* radiant energy than light-colored materials.
- Only radiant energy that is *reflected* is changed to thermal energy.
- The higher the R-value of insulation the *less* resistant it is to heat flow.

Radiant energy is either absorbed or reflected. If it is absorbed the material can serve as a conductor or an insulator. All materials conduct and insulate to some extent.

If it acts more like a conductor than an insulator the heat will pass through it more easily (conduct) and less will be absorbed compared to other materials. If it acts more like an insulator than a conductor, it will absorb more thermal energy and less will pass (conduct) through compared to other materials.



For each pair of materials decide, will the object most reflect radiant energy or absorb it.

If it absorbs it will act more like a conductor or an insulator compared to the other object.

13. a silver spoon compared to a wooden log

Reflect	Absorb	Reflect	Absorb
Better conductor or insulator		Better conductor or insulator	

14. a white shirt compared to a red shirt

Reflect	Absorb	Reflect	Absorb
Better conductor or insulator		Better conductor or insulator	

15. foil in the sunlight compared to a sidewalk in the sunlight

Reflect	Absorb	Reflect	Absorb
Better conductor or insulator		Better conductor or insulator	

16. single-pane window compared to double-pane window

Reflect	Absorb	Reflect	Absorb
Better conductor or insulator		Better conductor or insulator	

17. R-5 insulation compared to R-35 insulation

Reflect	Absorb	Reflect	Absorb
Better conductor or insulator		Better conductor or insulator	