Heat is transferred by radiation

Heat can be transferred by material substances, by solids, liquids and gases. Heat can also be transferred by wave motion, even across a vacuum. This is called radiation. Heat travels by radiation almost instantaneously. This experiment will demonstrate some interesting things about radiation.

Hold your hand under an unlighted electric bulb, upward. Turn on the electricity. Can you feel the heat almost as soon as you turn on the bulb? The heat could not have reached your hand by conduction because air is a very poor conductor of heat. Neither could it have reached your hand by convection because this would have carried the heat upward away from your hand. It actually came to your hand carried by very short waves. Radiation carries heat in every direction from the source.