

Result: An object at 4000 K looks red hot; an object at 6000 K looks white hot.

Solution: The blackbody spectrum for 4000 K has its maximum at about 725 nm and the curve is going down from the red end of the visible spectrum to the blue end. Thus, the object gives off more red light than blue light and appears red. (Even more radiation is given off in the infrared region, but you can't see it.)

The blackbody spectrum for 6000 K has its maximum at about 480 nm, near the middle of the visible region. Thus, the light emitted includes all visible colors; this corresponds to white light. (The temperature at the surface of the sun is between 5000 K and 6000 K; sunlight is "white" light.)