

How hot are you?

Thermal Camera



(Type) Science background	Ages 7-14	Topic Light	Time <10mins
	Skills used Observation - Curiosity		

Overview for adults

The thermal camera allows you to see what you look like in heat-vision. The hottest objects appear white; the coldest objects appear dark blue. The lighter the colour, the hotter it is. You can use the metal stamps and hand prints to make shapes appear on your hands that your eyes can't see but the camera can.

What's the science?

All objects give off infrared light. The hotter an object, the more infrared light it gives off. The camera in this exhibit detects infrared light. It then compares the amount of infrared light to the other objects around it and puts the right colour on top. That way, you can see what's hot, and what's not.

Science in your world

Infrared light can travel through objects, which makes thermal cameras really useful for search and rescue teams because they can spot hidden people and animals (which are hot) in amongst rubble from earthquakes (which is cold). The police also use these cameras to spot suspects on the run through dense woods or fields.

Things to think and talk about ...

- Why might your hair be colder than your face?
- Do all materials show as the same colour on the screen? Why might that be?

Things to investigate ...

- Can you spot any patterns in materials and the colours they appear?
- How does using the stamps change the image on the screen?

Museum links

You can explore the different wavelengths of light in our UV Room in Wonderlab.

You can explore more about different kinds of camera in our Kodak Gallery.

Did you know...?

Infrared is just one part of the entire electromagnetic spectrum of wavelengths our eyes can't see. Ultraviolet is another and so is Microwave, Radio wave, X-Ray and gamma-ray. Can you think of technologies in your world that might use these different wavelengths?