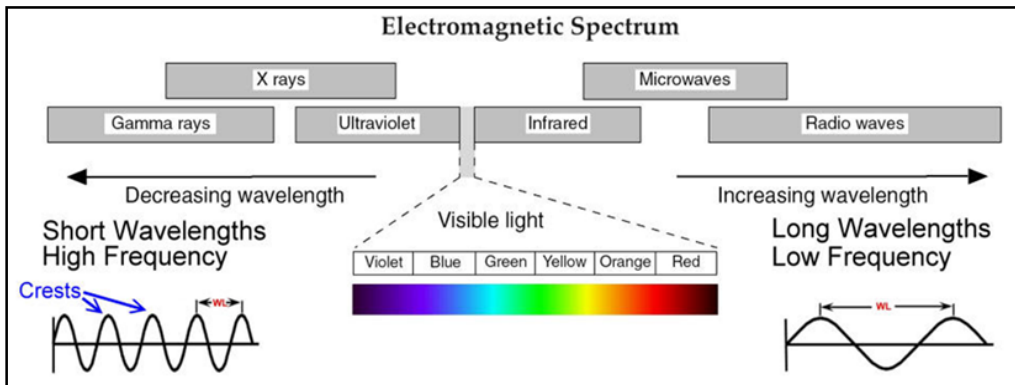


SPACE - Thermal Infrared Imaging

Infrared (IR) is a form of light.

We can't see with our eyes but we can feel on our skin as heat.
It lies just outside the visible spectrum, next to where red is.



[Credit: regentsearth.com]

What does an infrared thermal imaging camera do?

It detects energy emitted from an object in the IR range of the electromagnetic spectrum: 9,000–14,000 nanometers (9–14 μm) & produce images of that radiation.

Checkout the **Thermal Infrared Camera** exhibit:

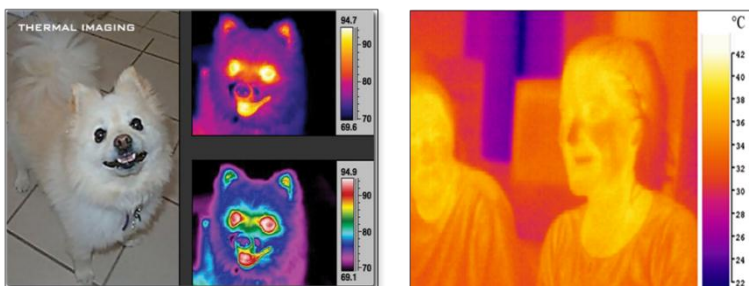
- Stand between the 2 screens.
- Observe & compare the images on the screens.
 - Why are there different colours on different parts of your body?
 - What does the different colours mean?
- Now explore using stuff you have with you - paper, sunglasses, cell phone, etc.

How useful is thermal infrared imaging to our daily lives?



DO YOU KNOW?

- Infrared cameras translate heat signatures of objects into colours on a scale.
- Higher** temperatures appear as **lighter** colours.
- Lower** temperatures & wet areas appear as **darker** colours.
- The differences in temperature can be detected by an infrared thermal imaging camera known as Infrared Thermography (IRT).

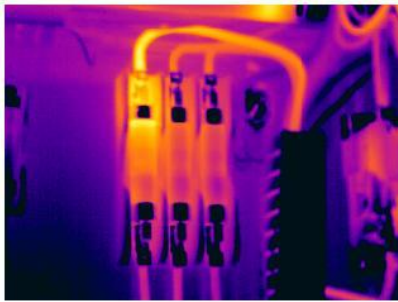


[Credit: NASA]



TO EXPLORE

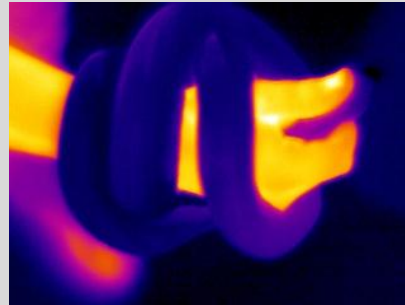
Let's investigate!



[Credit: Wikimedia Commons]

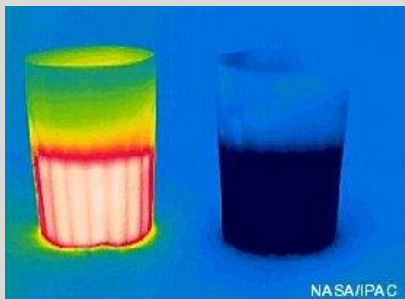
This is an industrial electrical fuse block.

Where is the electrical fault?



[Credit: Wikimedia Commons Arno / Coen - www.nutscode.com]

Where is the snake?



[Credit: NASA]

Which mug is colder?



[Credit: Wikimedia Commons]

Can thermal imaging cameras see through exterior walls into houses?

Watch these!

Night Vision versus Thermal Imaging

<https://www.youtube.com/watch?v=rAvnMYqj2c0>

How infrared imaging camera work

<https://www.youtube.com/watch?v=jX0gIWU49il>

Things We've Found With Our Infrared Camera

<https://www.youtube.com/watch?v=WJchBDfsGHU>

Tire Heat On F1 Cars - Infrared Camera

<https://www.youtube.com/watch?v=oUohIZEyq0w>

[Keywords: electromagnetic spectrum, visible light, infrared, thermal imaging]