Infrared Light

Infrared (IR) light is an electromagnetic wave just like white light, but it is invisible to human eyes because of a longer wavelength.

References:

Making IR cameras
https://publiclab.org/wiki/infragram
Infrared experiments:
https://www.youtube.com/watch?v=iOVZBJ8CuZU

Which light is the hottest?

Materials:
prism (http://cdn.opentip.com/Toys-Games/Prism-Acrylic-Equilateral-p-5394971.html?gclid=CNSFz4-S0c4CFYg7gQodMwIO_w)

heat sensitive paper (https://www.teachersource.com/product/387/chemistry?gclid=CNP-xMWR0c4CFdcZgQod0pYKhg) pkg of 40 for $25.95

Procedure:

1. Use a prism to separate white light coming through a window into different colors according to their wavelength.
2. Place a piece of heat sensitive paper on the table so that the different colors come into contact with it.
3. Wait 5 minutes. Observe the color changes on the heat sensitive paper as the different colors (wavelengths) come in contact with it.

Reflection:

1. Which color (wavelength) is the hottest? How did you determine this?
2. Predict which would be hottest, white (combined) light or your answer to question 1. Explain your answer.

Visualizing IR

Materials:
Cell phone camera
Remote control

Procedure:

1. Open the camera app on your cell phone.
2. Point a remote at your phone camera and push a button to engage the remote.
3. What do you see when you look at the remote, the camera?
4. Turn the camera around as if you are taking a “selfie.”
5. Point the remote at the camera while it is in “selfie” mode. Now, what do you see?

Reflection:

1. What is difference between the 2 cameras on your cell phone? Why can one camera see infrared light while the other camera does not?

The IR is visible because the cell phone camera has a filter when pointing away from you, but does not have that filter on the lens when it is reversed toward you.