AQA Physics GCSE

Required Practical 10

Radiation and Absorption

Method taken from AQA Required Practical Handbook

Aim:

Investigate how the amount of infrared radiation absorbed or radiated by a surface depends on the nature of that surface.

Equipment List:

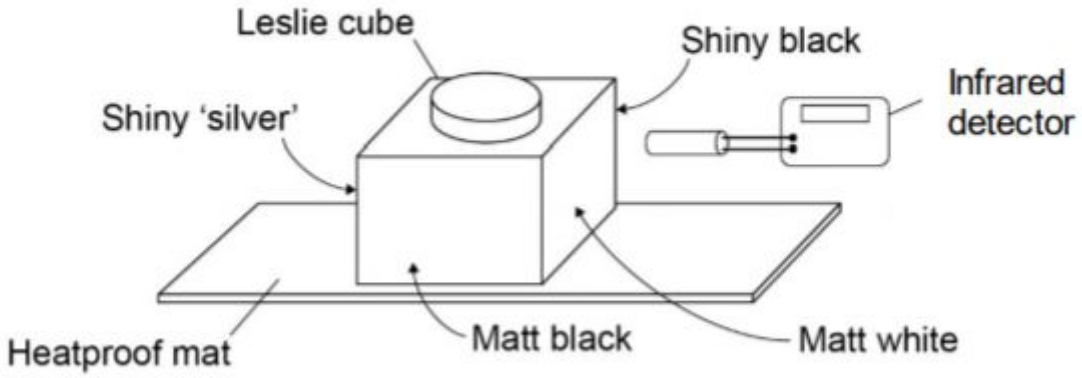
- Leslie cube (a cube with different surfaces)
- Kettle
- 30cm ruler
- Stopwatch
- Infrared detector
- Heatproof mat

Method:

1. Align the infrared detector with one side of the Leslie Cube, 20cm away from the side, and take the initial temperature of the surface.
2. Heat one side of the Leslie Cube by pouring hot water onto the surface.
3. Measure and record the temperature of the surface every 30s for five minutes.
4. Rotate the cube and repeat the experiment for a different surface.
5. Plot temperature (plot on y-axis, measured in °C) against time (plot on x-axis, measured in seconds) for each different surface.

Diagram:

Source: AQA Required Practical Handbook



Safety Precautions:

- Take care handling hot water, be careful not to scold yourself and mop up any water spillages.
- Avoid spilling water on any electrics of the infrared detector.