

temperature measurement

K

kelvin



All nations on Earth have agreed to measure things using the International System of Units (SI).
The kelvin in this system is used to measure temperature.

A change in temperature of 1 degree Celsius is the same as a change of 1 kelvin.



Other temperature units

Most people use degrees Celsius ($^{\circ}\text{C}$) where temperature in degrees Celsius = temperature in kelvin - 273.15.

How do we measure temperature?

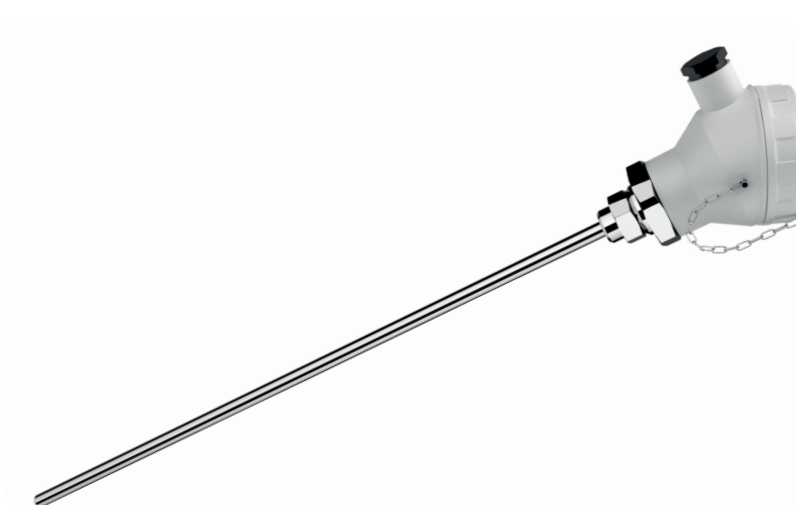
A thermometer is used to measure temperature.



Liquid in glass: the liquid height changes with temperature



Infrared thermometer: measures invisible glowing from objects



Thermocouple: electrical properties change with temperature

Challenge:

Put the following in order by temperature, lowest to highest.



Normal human body temperature



Hottest shower water



Chocolate melts



Water boils

Did you know?

In only a few seconds, water at 55°C can burn you, -28°C for 30 minutes can give you frostbite.

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Challenge answer:
Chocolate melts: $30-32^{\circ}\text{C}$ (if melts in your mouth but not when stored)
Healthy human body: $36.1-37.2^{\circ}\text{C}$ (cells can only work properly over this range)
Shower: 41°C (avoid scalding)
Water boils: 100°C