

AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES SCHOOLS ENRICHMENT CENTRE (AIMSSEC)

AIMING HIGH

TEMPERATURE



In some countries temperature is measured in degrees Celsius (originally called degrees Centigrade) and in other countries it is measured in degrees Fahrenheit.

The freezing point of water is 0 degrees Celsius and 32 degrees Fahrenheit.

The boiling point of water is 100 degrees Celsius and 212 degrees Fahrenheit.

Use this information to write down an expression for converting Fahrenheit readings into Celsius.

Write down an expression for converting Celsius readings into Fahrenheit.

A temperature for the human body of between 97 and 99 degrees Fahrenheit is considered normal and a temperature of over 100 degrees Fahrenheit is said to be a fever. Find the equivalent temperatures in degrees Celsius.

What equation would you solve to find the temperature at which Celsius and Fahrenheit readings are the same

HELP

You must think how you will deduce information from the initial temperature facts given.

You could use a straight line graph to show the conversion of Fahrenheit to Celsius. With Celsius on the horizontal axis plot the points (0, 32) and (100, 212) to show the freezing point and the boiling point of water and join them with a straight line.

What is the gradient of the line? What is the equation of the line?

NEXT

Scientists often use the Kelvin scale of temperature, where the freezing point of water is $273.15 \circ K$ and the boiling point of water is $373.15 \circ K$.

Is there a temperature at which Kelvin and Fahrenheit readings are the same? Is there a temperature at which Kelvin and Celsius readings are the same?

Can you describe ways of converting Kelvin readings into Fahrenheit and Celsius readings?