

Warm Up

1. Convert 25°C to $^{\circ}\text{F}$. $F = \frac{9}{5} C + 32$

$$= \frac{9}{5} (25) + 32$$

2. Convert -32°F to $^{\circ}\text{C}$. $= 45 + 32$

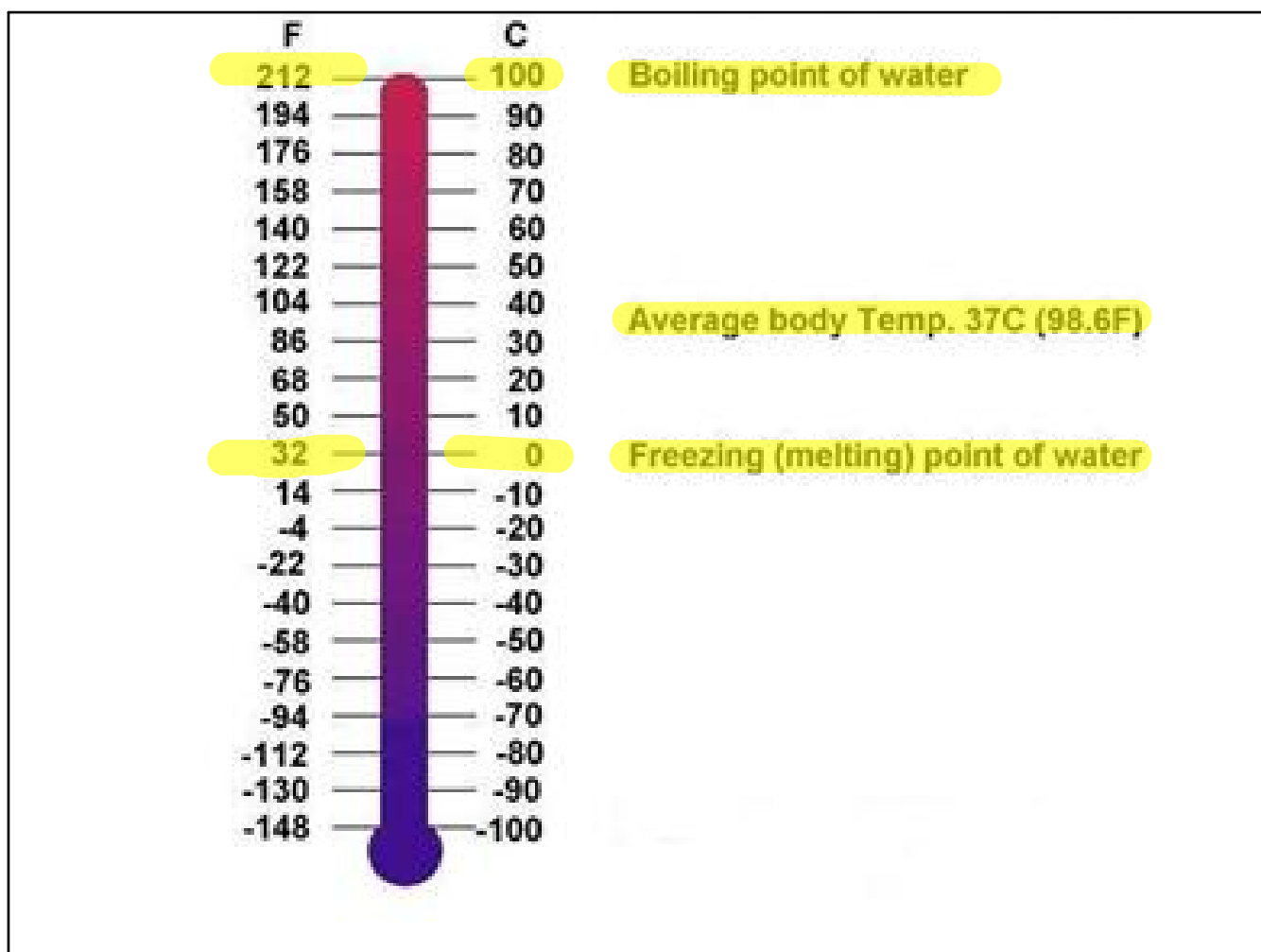
$$= 77^{\circ}\text{F}$$

$$C = \frac{5}{9} (F - 32)$$

$$= \frac{5}{9} (-32 - 32)$$

$$= \frac{5}{9} (-64)$$

$$= -35.5^{\circ}\text{C}$$



Conversions

Convert from °F into °C...

$$C = \frac{5}{9}(F - 32)$$

Convert from °C into °F...

Let's rearrange to get the formula!

$$\begin{aligned} \frac{9}{5}C &= F - 32 \\ \frac{9}{5}C + 32 &= F \end{aligned}$$

$$F = \frac{9}{5}C + 32$$

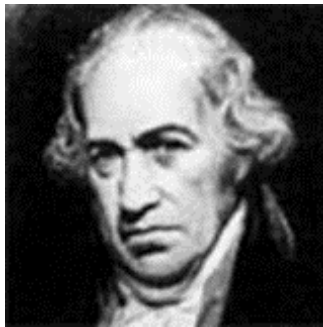
Roots of Temperature

**Galileo
Thermoscope
1592**



**Galileo Galilei
(1564- 1642)**

**Fahrenheit Scale
1714**

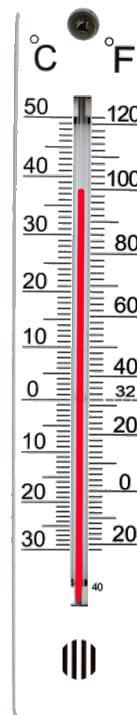


**Daniel Gabriel Fahrenheit
(1686 - 1736)**

**Celsius Scale
1742**



**Anders Celsius
(1701 - 1744)**



HOMework...

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5.1 Temperature Conversion solutions

$$C = F$$

$$\frac{5}{9}(F - 32) = \frac{9}{5}C + 32$$

$$\frac{5}{9}(x - 32) = \frac{9}{5}x + 32$$

$$\frac{5x}{9} - \frac{160}{9} = \frac{9}{5}x + 32$$

$$45 \left(\frac{5x}{9} - \frac{9x}{5} \right) = \left(\frac{160}{9} + 32 \right) 45$$

$$25x - 81x = 800 + 1440$$

$$\frac{-56x}{-56} = \frac{2240}{-56}$$

$$x = -40$$

Section 5.1 Temperature Conversions.pdf