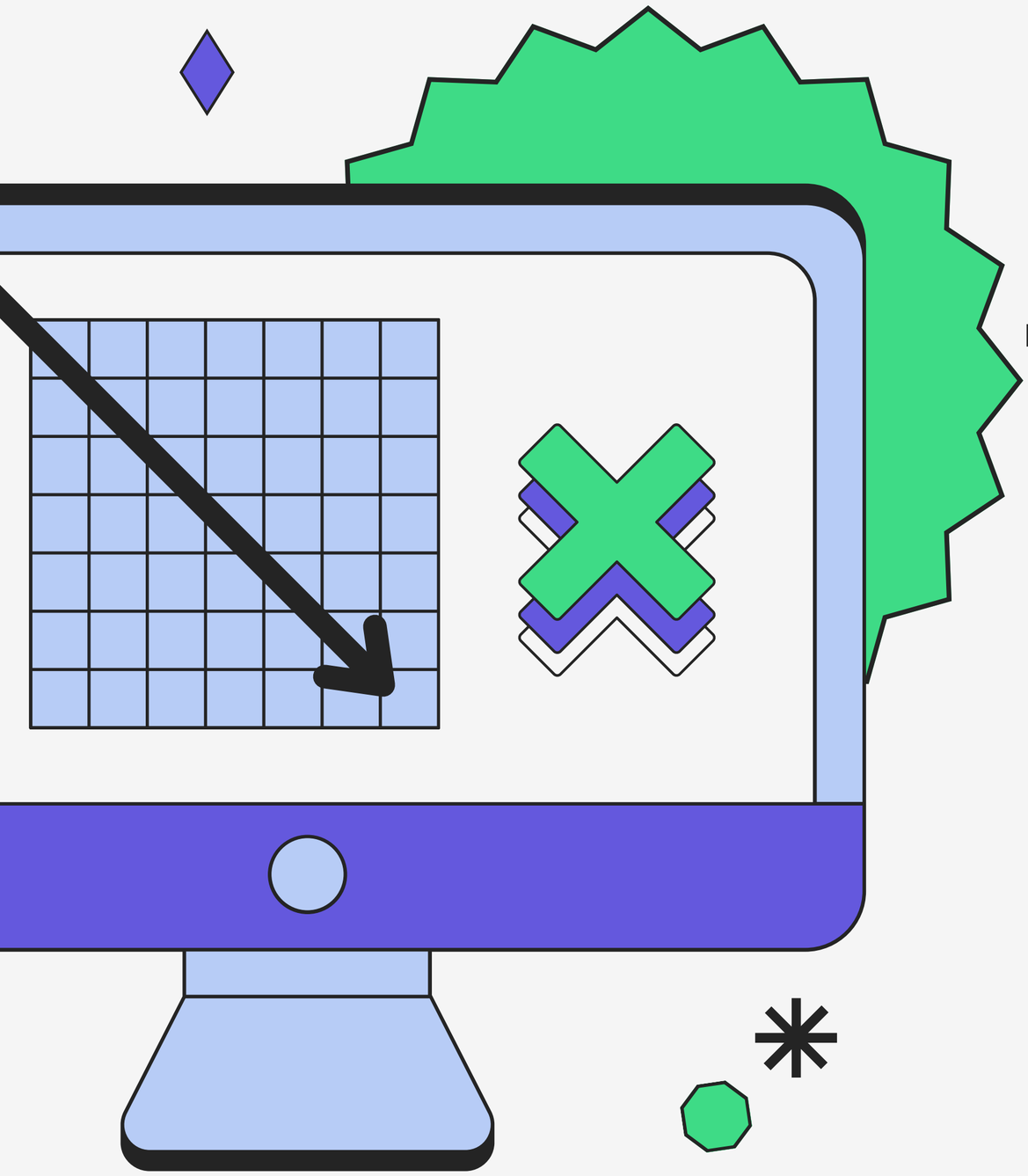
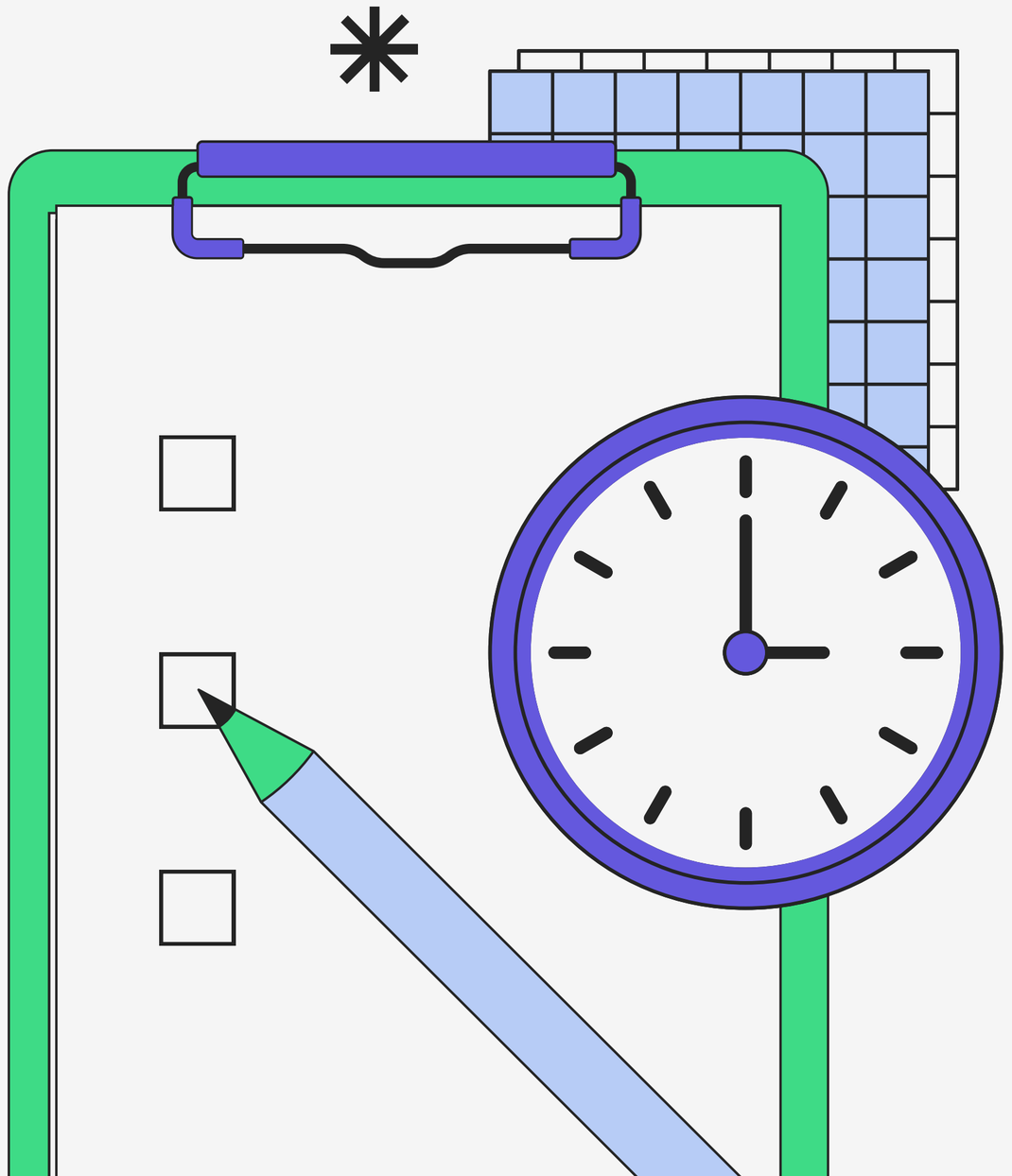


TEMPERATURE

Temperature is a measure of the average kinetic energy of the particles in a substance or system.

OBJECTIVES

- Define temperature and understand its significance.
- Measure temperature using different instruments.



TEMPERATURE

We can evaluate formulas just as we evaluated algebraic expressions.

FORMULA

- Fahrenheit to Celsius formula:

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

- Celsius to fahrenheit formula:

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

EXAMPLE # 1

To convert 40 degrees Celsius (°C) to Fahrenheit (°F), you can use the following formula:

$$F = \left(\frac{9}{5} \times C\right) + 32$$

Where:

- F is the temperature in Fahrenheit,
- C is the temperature in Celsius.

EXAMPLE # 1

To convert 40 degrees Celsius (°C) to Fahrenheit (°F), you can use the following formula:

$$F = \left(\frac{9}{5} \times C\right) + 32$$

Where:

- F is the temperature in Fahrenheit,
- C is the temperature in Celsius.

Using this formula, let's convert 40°C to Fahrenheit:

$$F = \left(\frac{9}{5} \times 40\right) + 32$$
$$F = \left(\frac{360}{5}\right) + 32$$
$$F = 72 + 32$$
$$F = 104$$

So, 40 degrees Celsius is equal to 104 degrees Fahrenheit.

EXAMPLE # 2

To convert 0 degrees Fahrenheit (°F) to Celsius (°C), you can use the following formula:

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

Where:

- C is the temperature in Celsius,
- F is the temperature in Fahrenheit.

EXAMPLE # 2

To convert 0 degrees Fahrenheit (°F) to Celsius (°C), you can use the following formula:

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

Where:

- C is the temperature in Celsius,
- F is the temperature in Fahrenheit.

Using this formula, let's convert 0°F to Celsius:

$$C = \left(\frac{5}{9} \times (0 - 32)\right)$$
$$C = \left(\frac{5}{9} \times (-32)\right)$$
$$C = \left(\frac{-160}{9}\right)$$
$$C \approx -17.78$$

So, 0 degrees Fahrenheit is approximately equal to -17.78 degrees Celsius.

EXAMPLE # 3

To convert 0 degrees Celsius (°C) to Fahrenheit (°F), you can use the following formula:

$$F = \left(\frac{9}{5} \times C\right) + 32$$

Where:

- F is the temperature in Fahrenheit,
- C is the temperature in Celsius.

EXAMPLE # 3

To convert 0 degrees Celsius (°C) to Fahrenheit (°F), you can use the following formula:

$$F = \left(\frac{9}{5} \times C\right) + 32$$

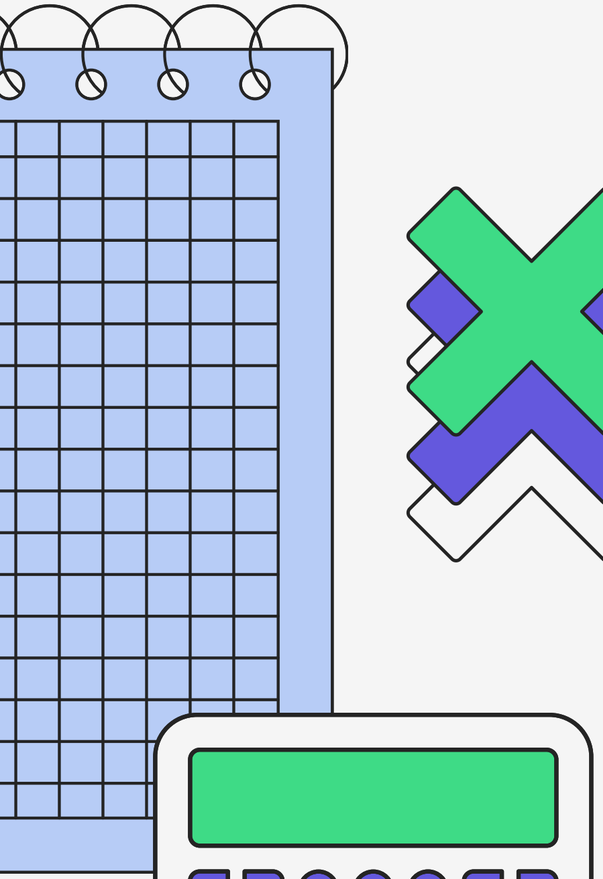
Where:

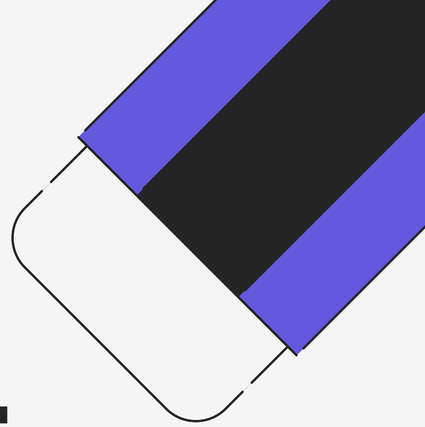
- F is the temperature in Fahrenheit,
- C is the temperature in Celsius.

Using this formula, let's convert 0°C to Fahrenheit:

$$F = \left(\frac{9}{5} \times 0\right) + 32$$
$$F = (0) + 32$$
$$F = 32$$

So, 0 degrees Celsius is equal to 32 degrees Fahrenheit.





SEE YOU NEXT TIME