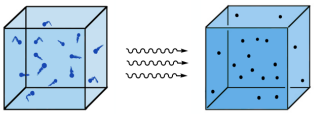
CONCEPT: TEMPERATURE

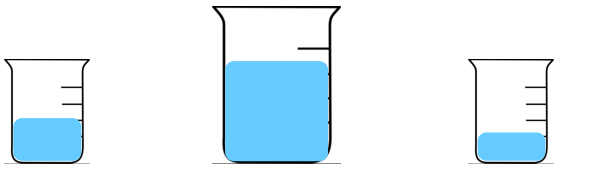
Temperature vs. Heat

- **Thermal Energy**: The sum of the kinetic and potential energies of all atoms in an object.
  - □ **Temperature**: The average kinetic energy of an object that is a _____ of thermal energy.
  - □ **Heat**: The _____ of thermal energy from an object at a higher temperature to an object at a lower temperature.

EXAMPLE: From the image provided below, determine which part of the cubes represent temperature and which part represents heat.



PRACTICE: Which of the following containers would have the greatest flow of thermal energy in the form of heat?



40 g H_2O at 50°C | 120 g H_2O at 50°C | 30 g H_2O at 50°C

Temperature Conversions

- Temperature can be measured in units of _____ (°C), _____ (°F), and _____ (K).

Temperature Conversions	
K = °C + _____	°F = 1.8 (°C) + _____
K ⟷	⟷

EXAMPLE: One of the hottest recorded days in the country was 128 °F in Lake Havasu City, Arizona. If the melting point of phosphorus is 44.15 °C, would it exist as a solid or liquid on this extremely hot day? Put a yellow box

PRACTICE: At what temperature is the temperature in degrees Fahrenheit equal to the temperature in degrees Celsius?