

Nome	Istituti in rete VOLTA - CAIROLI
Cognome	Test di verifica "progetto E-CLIL"
Classe	Docente:
Data	Durata della prova:

Choose the correct sentence:

- 1) Calorie is:
 - a. the amount of energy necessary to raise the temperature of 1g of water by 1°C
 - b. the amount of energy necessary to raise the temperature of 1L of water by 1°C
 - c. the amount of energy necessary to raise the energy between the molecules of a system
- 2) During the passage of state from ice to water,
 - a. There is an increase in temperature
 - b. molecules will tend to vibrate less, so we have a lower kinetic energy
 - c. there is an absorption of energy
- 3) What is the correct meaning of the word "heat"?
 - a. energy in transfer spontaneously from an object with a higher temperature to another one with a lower temperature
 - b. the energy of one object
 - c. a temperature of an object
- 4) Temperature:
 - a. and heat are the same thing
 - b. is the transfer of energy between two objects
 - c. is the measure of the thermal agitation between molecules
- 5) Internal energy :
 - a. the formula is internal energy= kinetic energy – bond energy
 - b. is the total energy associated with atoms and molecules that a system possesses
 - c. is energy in transfer between two bodies
- 6)
 - a. Conduction occurs with a displacement of matter
 - b. Convection happens when there is a difference in temperature between a fluid or a gas in motion and a surface
 - c. Radiation is the energy emitted by matter at a finite temperature and transferred by sounds waves
7. Thermos is a container that allows to maintain its contents hotter or colder than the surroundings

- a. Thanks to a vacuum
 - b. Thanks to the process of convection
 - c. Thanks to the displacement of matter
8. If k (thermal conductivity) is:
- a. Small, the material is a good conductor
 - b. Small, the material is an insulator
 - c. Big, the material is an insulator
9. Blackbodies have:
- a. ε with a big value and don't absorb heat
 - b. ε with a small value and don't absorb heat
 - c. ε with a big value and absorb heat very well
10. In Fourier's law:
- a. Δt (variation in time) is directly proportional to k
 - b. Δt is directly proportional to $1/k$
 - c. Δt is directly proportional to ΔT (variation in temperature)
11. What is specific heat capacity?
- a. It is the amount of energy necessary to increase the temperature of 1 kg of a substance by 1°C
 - b. It is the amount of energy necessary to increase the temperature of a sample of a particular substance by 1°C
 - c. It is the temperature that we feel when we touch a particular substance
12. What would be the variation in temperature of 2.0 kg of gold at 25°C if 3.0 Cal was added to the sample? (for gold, $c = 129 \text{ J/kg}^\circ\text{C}$)
- a. $0,05^\circ\text{C}$
 - b. $0,021^\circ\text{C}$
 - c. $0,011^\circ\text{C}$
13. $5.0 \times 10^3 \text{ J}$ of heat are added to a block of aluminum, which has a mass of 2.5 kg, and its temperature increases of 3.5 K. What is its heat capacity?
- a. $1.4 \times 10^3 \text{ J/K}$
 - b. $1.5 \times 10^3 \text{ J/K}$
 - c. $1.4 \times 10^{-3} \text{ J/K}$
14. What would be the final temperature of 4200 g of a sample of silver if the initial temperature is 45°C and if $3,0 \times 10^3 \text{ Cal}$ are added to the sample? (for silver, $c = 234 \text{ J/kg}^\circ\text{C}$)
- a. 42°C
 - b. 58°C
 - c. 57°C