

10.1 Temperature, Thermal Energy, and Heat

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P O T E N T I A L E N E R G Y T D B T N Q B Y C T
V J Y C T E M P E R A T U R E S J Z M U P R S Q M
M T T F E M C T H E R M A L L M R Q Z N K I O G O
S G W S W P E K A G G T I V D C D B R Z Z N L C T
W M N T U U L I L K R J F I V S O Q A H F S A O I
L E Z F L I S I M S S A L P X C Z M D Z W U R L O
D P Z L H A I K Q B Z O U G E J X E I T I L U L N
S H K Q L Z U O Y W S X I S W D Y C A L N A O I O
N S F L R U S Z G Y T P D G A Z M U T E C T S D P
Q Y L M P T Q L H U D D S V V F V R I L C O L E E
C O N V E C T I O N V H C R Z F W R O S R R E B C
Z Q G S W D E K R C K X O Y C D A E N X B S O P F
Q W W Q G E L K V L T E F A H R E N H E I T V K N
Y Y W E T D J R L V N Z L G L P I T E Y L Y Z B C
O E I H F Q Y V V R S V D V Z H Q Q U H E A T G G
G I Z F F Q Z C R G Z I B G I S D I N F R A R E D
Z S B Q E X C O N D U C T I O N X H O N Q Z V W K

1. The transfer of thermal energy.
2. _____ energy is the total energy of all the particles in a solid, liquid, or gas.
3. Kinetic energy is the energy of a particle or an object due to its _____.
4. Compared to particles in liquids and gases, the particles of a _____ have very little kinetic energy.
5. When particles _____, kinetic energy is transferred between them.
6. A measure of the average kinetic energy of all the particles in a sample of matter.
7. The _____ temperature scale is based on two fixed points: the freezing and boiling points of water.
8. A temperature scale based on absolute zero, the temperature at which particles would have no kinetic energy.
9. Water freezes at 32 degrees in the _____ scale.
10. The stored energy of an object or particle, due to its position or state.
11. The transfer of thermal energy from one substance to another or within a solid by DIRECT contact of particles.
12. Materials that do not transfer thermal energy easily are called _____.
13. Liquids and gases are _____.
14. The movement of liquid in a lava lamp occurs by _____.
15. In a bubbling pot of water on the stove, the warmer water at the bottom of the pot rises because it is less _____ than the surrounding water.
16. A convection _____ is the movement of a fluid caused by density differences.
17. Electromagnetic _____ is the transfer of energy by waves travelling outward in all directions from a source.
18. If you stand too close to a campfire, you will experience the reality of _____ radiation, also known as heat radiation.
19. When you stand in sunlight, your skin feels warm due to _____ radiation, the transfer of radiant energy from the Sun.