Grade 7 Science – Heat

Bill Nye Video Questions ANSWERS

1. Heat is a form of _____energy_____ and can do _____work_____.
2. Heat is transferred through the universe in three different ways?
   a. conduction b. convection c. radiation
3. The invisible heat transferred from the Sun is called _____radiation_____.
4. The heat transfer that occurs when warm air rises is called ____convection_ (for example, the steam of boiling water cooking food).
5. ____conduction_____ is the direct transfer of heat from one object to another (for example, the pancake cooking on the griddle).
6. Match the scenario with the correct term: convection, conduction, and radiation.
   a. Hot air moving up is an example of _____convection _____.
   b. A microwave oven uses _____radiation_____ to heat foods.
   c. A metal spoon heated by hot soup is an example of __conduction_____.

7. Predict: Which sugar cube will be dropped into the water first? Why? metal – better conductor
8. Even cold materials radiate some __heat_ _____energy___.
9. All molecules have __heat energy_. More molecules= ___more_ heat energy.
10. Which has more heat energy—the ice sculpture or a lighted match? ___ice sculpture___
11. An object with more molecules has ____more__ energy than an object with fewer molecules.
12. Cooler water will __sink____, while warmer water will ___rise___.
13. A lava lamp is an example of which type of heat transfer? _____convection_____
14. An infrared camera is sensitive to __thermal___ ____radiation__.
15. What kind of transfer happens in a vacuum? _____radiation_____
16. Heat and light travel in ____waves_____. Waves travel at a speed of _300,000 km/sec.
17. Heat is measured by using ___calories__ or _____Joules_____.
18. Walls, floors, and ceilings ____reflect_____ heat.
19. Molecules in cold things move more ____slowly_____ than in hot things.
20. Hot __moving_ ___molecules___ cause wet objects in a drier to become dry.

BONUS

Why is air a poor conductor of heat? OR Give an example of natural convection.

Air is a poor conductor of heat because there is a lot of empty space between particles.

Rising air currents or ocean currents are examples of natural convection.