

Name _____

Heat: The Magical Force of Warmth and Energy

Open-Ended Response Answer Key

1. When left on a table together, the hot tea will eventually cool down, and the cold juice will gradually become warmer. Both cups will reach a temperature somewhere in between the initial temperatures of the tea and juice.
2. Heat is harnessed to generate electricity in power plants by using it to boil water, which produces steam. The steam then drives turbines connected to generators, producing electrical energy.
3. Understanding heat transfer is helpful in cooking to control the temperature and evenly cook food. For example, knowing how heat spreads through conduction helps ensure that food cooks evenly in a pan.
4. To demonstrate conduction, you can take two metal rods, heat one end of one rod, and then touch the heated end to the unheated end of the other rod. The heat will transfer from one rod to the other, showing how heat moves through solid objects.

