

Physical and Chemical Changes

Use with Chapter 3,
Section 3.2

Physical and chemical changes occur all around us. One of the many places in which physical and chemical changes occur is the kitchen. For example, cooking spaghetti in a pot of water on the stove involves such changes. For each of the changes described below, tell (a) whether the change that occurs is physical or chemical, and (b) how you made your choice between these two possibilities. If you are unable to decide whether the change is physical or chemical, tell what additional information you would need in order to make a decision.

1. As the water in the pot is heated, its temperature rises.

2. As more heat is added, the water begins to boil and steam is produced.

3. The heat used to cook is produced by burning natural gas in the stove burner.

4. The metal burner on which the pot rests while being heated becomes red as its temperature rises.

5. After the flame has been turned off, a small area on the burner has changed in color from black to gray.

6. A strand of spaghetti has fallen onto the burner, where it turns black and begins to smoke.

7. When the spaghetti is cooked in the boiling water, it becomes soft.
