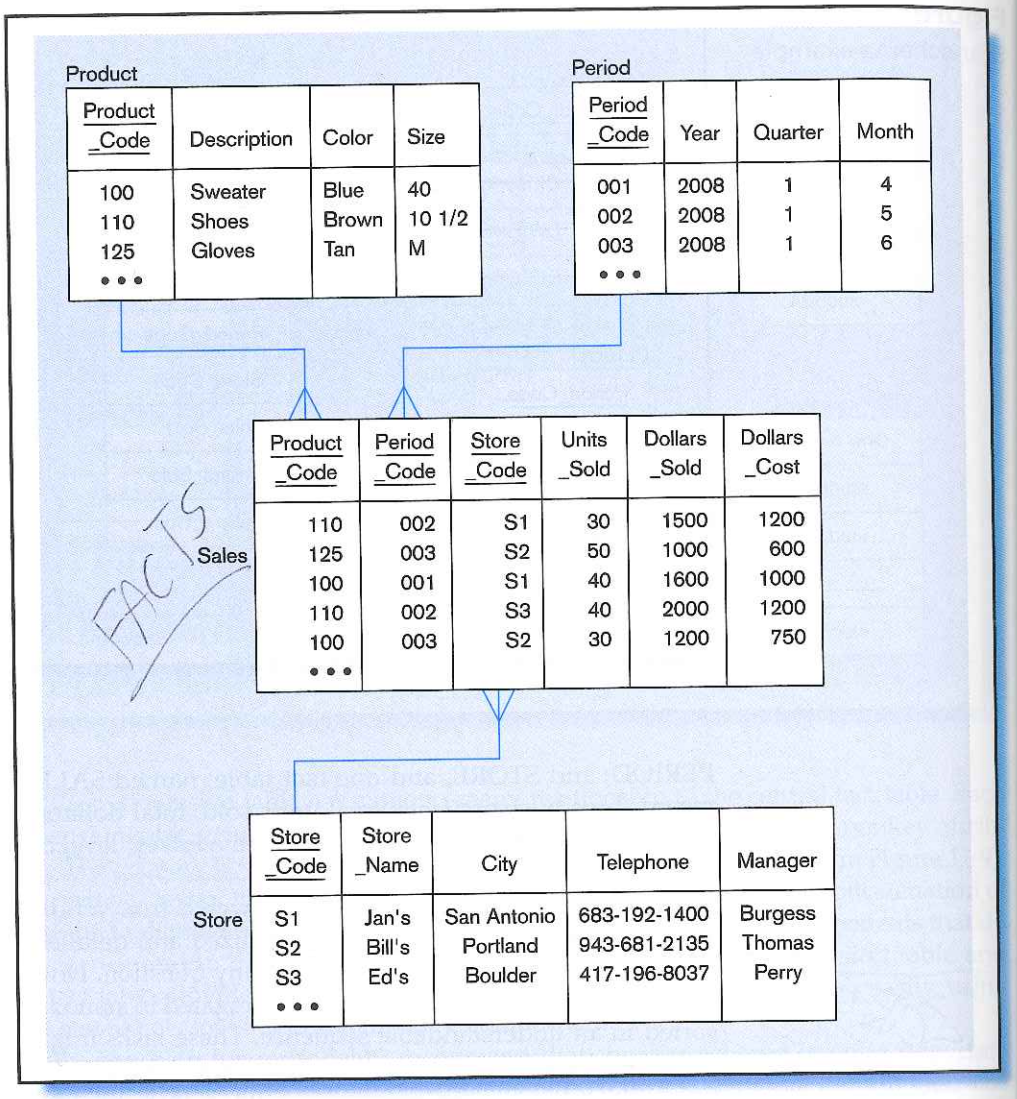
Figure 11-11
Star schema with sample data



Additional detail concerning the dimensions for this example can be obtained from the dimension tables. For example, in the PERIOD table, we find that period 002 corresponds to year 2008, quarter 1, month 5. Try tracing the other dimensions in a similar manner.

Surrogate Key

Every key used to join the fact table with a dimension table should be a surrogate (nonintelligent or system assigned) key, not a key that uses a business value (sometimes called a natural, smart, or a production key). That is, in Figure 11-10, Product_Code, Store_Code, and Period_Code should all be surrogate keys in both the fact and dimension tables. If, for example, it is necessary to know the product catalog number, engineering number, or inventory item number for a product, these attributes would be stored along with Description, Color, and Size as attributes of the product dimension table. The following are the main reasons for this surrogate-key rule (Kimball, 1998a):

- Business keys change, often slowly, over time, and we need to remember old and new business key values for the same business object. As we will see in a later section on slowly changing dimensions, a surrogate key allows us to handle changing and unknown keys with ease.