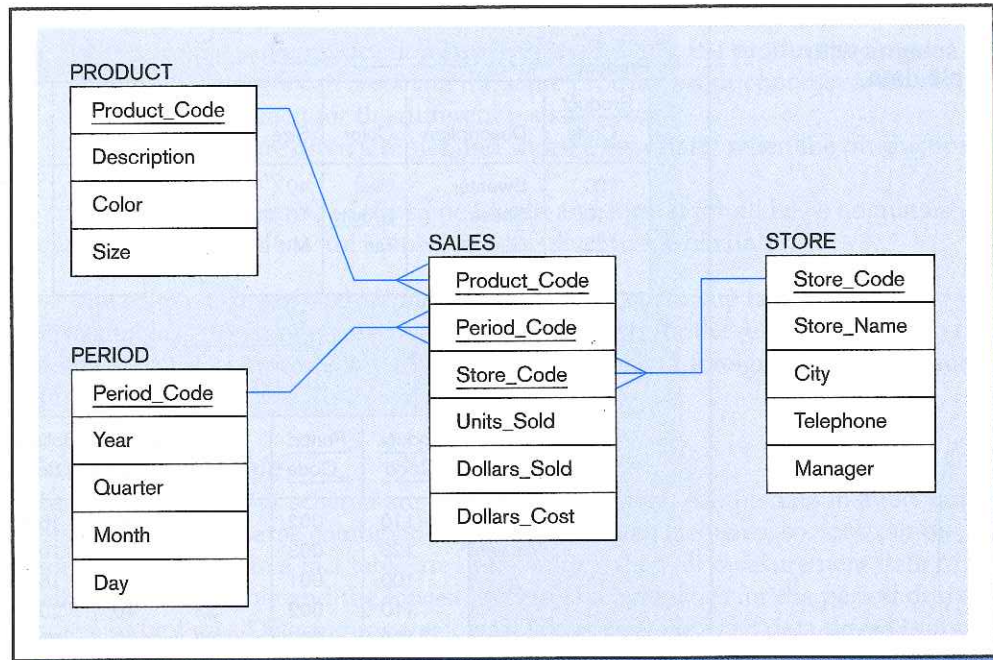


**Figure 11-10**  
Star schema example



PERIOD, and STORE, and one fact table, named SALES. The fact table is used to record three business facts: total units sold, total dollars sold, and total dollars cost. These totals are recorded for each day (the lowest level of PERIOD) a product is sold in a store.

*Screen*

Could these three questions be answered from a fully normalized data model of transactional data? Sure, a fully normalized and detailed database is the most flexible, able to support answering almost any question. However, more tables and joins would be involved, data need to be aggregated in standard ways, and data need to be sorted in an understandable sequence. These tasks might make it more difficult for the typical business manager to interrogate the data (especially using raw SQL), unless the business intelligence (OLAP) tool they use can mask such complexity from them (see sections later in this chapter on the user interface). And, sufficient sales history would have to be kept, more than would be needed for transaction processing applications. With a data mart, the work of joining and summarizing data (which can cause extensive database processing) into the form needed to directly answer these questions has been shifted to the reconciliation layer, and processes in which the end user does not need to be involved. However, exactly what range of questions will be asked must be known in order to design the data mart for sufficient, optimal, and easy processing. Further, once these three questions become no longer interesting to the organization, the data mart (if it is physical) can be thrown away, and new ones built to answer new questions, whereas fully normalized models tend to be built for the long term to support less dynamic database needs (possibly with logical data marts that exist to meet transient needs). Later in this chapter we will show some simple methods to use to determine how to determine a star schema model from such business questions.

Some sample data for this schema are shown in Figure 11-11. From the fact table, we find (for example) the following facts for product number 110 during period 002:

1. Thirty units were sold in store S1. The total dollar sale was 1500, and total dollar cost was 1200.
2. Forty units were sold in store S3. The total dollar sale was 2000, and total dollar cost was 1200.