approximately half the body's total fat stores are directly beneath the skin. The upper arm muscle circumference is correlated with measurements of total muscle mass. Because muscle serves as the body's major protein reserve, this measurement is considered an index of the body's protein stores. Ideally, growth measurements are recorded over time, and comparisons are made regarding the velocity of growth and weight gain based on previous and present values.

Numerous **biochemical tests** are available for assessing nutritional status. The most common laboratory studies to assess children for undernutrition are hemoglobin, red blood cell indices, and serum albumin or prealbumin. For obese children, fasting serum glucose, lipids, and liver function studies may be performed to assess for complications.

Evaluation of Nutritional Assessment

After collecting the data needed for a thorough nutritional assessment, evaluate the findings to plan appropriate counseling. From the data, assess whether the child is malnourished, at risk for becoming malnourished, well-nourished with adequate reserves, or overweight or obese.

Analyze the daily food diary for the variety and amounts of foods suggested in MyPlate (see Fig. 4-4). For example, if the list includes no vegetables, inquire about this rather than assuming that the child dislikes vegetables, because it is possible that none were served that day. Also, evaluate the information in terms of the family's ethnic practices and financial resources. Encouraging increased protein intake with additional meat is not always feasible for families on a limited budget and may conflict with food practices that use meat sparingly, such as in Asian meal preparation.

General Approaches Toward Examining the Child

Sequence of the Examination

Ordinarily, the sequence for examining patients follows a head-to-